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Regular Edition

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EDITORIAL SUMMARY: Pages 57-58

Educating the Public to Appreciate Architecture—Education in Art by Magic-lantern—A Test of the Moore Vacuum-tube Light—Death of George W. Cady, Architect—The Sanitary Aspect of the Lourdes Frenzy—TheVosmaer Ozonizing Process of Filtering Water—Labor in the Canal Zone.

PROPORTIONING CONCRETE..... 59
REVIVAL OF THE OPEN-AIR THEATER..... 61
EARLY ILLUMINATING OILS..... 61
A MODERN GEORGIA HOUSE..... 62

COMMUNICATIONS: 63

Substantial Performance—Concentric Boulevards.

NOTES AND CLIPPINGS..... 64

SOCIETIES, PERSONAL MENTION, BUILDING NEWS, ETC.

PLATES:

Branch Public Bath, West Sixtieth Street, New York, N. Y.—Front Elevation and Cross Section of the Same—Longitudinal Section of the Same—Plans of the Same—Details of the Same—House of Mrs. H. P. King, Pride's Crossing, Mass.—Entrance to the Same—Entrance-hall: House of M. Newborg, Esq., 52 East Fiftieth Street, New York, N. Y.

ADDITIONAL PLATES (International Edition):

A Church at Edam, Holland—The Fish-market, Leyden, Holland.

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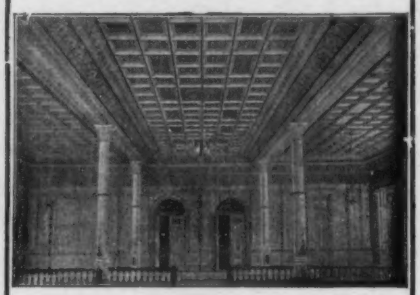

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Alphabetical List of Advertisers

(FOR CLASSIFIED LIST, SEE PAGE 18)

A
Alsen Cement xix
American Air Cleaning Co. v
American Asphaltum & Rubber Co. xiii
American School of Correspondence ... x
American Luxfer Prism Co. x
American Mason Safety Thread Co. .xiv
American Rolling Mill Co. xvii
Andrews Co., A. H. xiv
Architect & Contract Reporter. ii
Associated Expanded Metal Co. xvi
Atlas Portland Cement Co. xix
Automatic Mail Delivery Co. xiii

B
Barber Asphalt Paving Co. ... e-o-w, xii
Barret Mfg. Co. xiii
Batchelder & Co., C. H. xix
Berger Mfg. Co. ii
Bird & Sons, F. W. ..... e-o-w, xix
Blome, R. S., Co. xx
Broad Gauge Iron Stall and Vane Wks. xix
Building News. xiii
Butcher Polish Co. ..... e-o-w, ix

C
Cairns, Hugh. xix
Campbell, Walter M. xiv
Cement Age. vi
Chicago & Alton Ry. xvii
Chicago & Northwestern Ry. xvi
Clinton Wire Cloth Co. ..... o-a-m, xix
Cummings Filter Co. xiv
Cutler Mfg. Co. xiii

D
Dadmun, Leon B. xix
Deane, E. Eldon xiv
Dixon Crucible Co., Jos. ix

E
Elevator Supply and Repair Co. ii
Elston, A. A. xix
Emmel, Charles ..... e-o-w, xv
Engineering Agency xi
Erickson Electric Equipment Co. ... xix
Expanded Metal and Corrugated Bar Co. ..... e-o-w, vii

F
Favor, Ruhl & Co ..... e-o-w, xiv
Fire Proof Door Co ..... e-o-w, iii
Fisher Co., Robert C. ii
Fitzpatrick, F. W. ..... e-o-w, xi
Flanagan & Biedenweg Co. ix
French & Co., Samuel H. ix
Frink, I. P. ii

G
Genasco Roofing Co ..... e-o-w, xii
Gilbreth, Frank B ..... o-a-m, xii, xiii
Globe Ventilator Co. xviii
Goodyear Tire & Rubber Co. xiii
Gorham Mfg. Co ..... o-a-m, xi
Guastavino Co., R. ..... o-a-m, xiii
Gurney Heater Mfg. Co. xx

H
Hartmann Bros. Mfg. Co ii
Harvard University iv
Hayes, Geo viii
Hitchings & Co ix
Holoplane Glass Co. ..... e-o-w, xi
Huber & Co., H. F. iii

I
Illinois Steel Co xx
Imperial Expanded Metal Co xvii

J
Jackson Co., Wm. H xx
Jenkins Bros x
Johnson & Co., H. A xix
Jones, T. W ..... e-o-w, ix

K
Keasbey & Mattison Co ..... o-a-m, xii
Kewanee Water Supply Co. xii
Kinnear Mfg. Co., The ii

L
Lane, John vi
Loomis-Manning Filter Co xii
Lord & Burnham Co. viii

M
Mass. Institute of Technology iv
Miller & Bro., James A viii
Morrill & Whiton Construction Co .. xix
Morse Co., P. E iv
Moss, Chas. E xix
Mullins Co., W. H. ..... e-o-w, viii
Mycenian Marble Co ..... o-a-m, x

N
National Fireproofing Co .... e-o-w, vii
National Lead Co ..... e-o-w, v
Neuchatel Asphalt Co x
New Jersey Zinc Co ..... o-a-m, ix
New York Belting & Packing Co., e-o-w, xi
Northwestern Terra Cotta Co. e-o-w, xix

O
Okonite Co. (Ltd.) ..... e-o-w, iv
Otis Elevator Co ii

P
Pennsylvania Rubber Co iv
Pitt Balance Door Co. ii
Pitt Iron Works, Wm. R. ..... e-o-w, iii

R
Raymond Concrete Pile Co. iii
Rider-Ericsson Engine Co. xvi

S
Samson Cordage Works ..... e-o-w, x
Silver Lake Co xix
Simpson Bros. Corporation xix
Sleep, Elliott & King Co. xix
Smith Co., H. B. ..... e-o-w, xvi
Society of Beaux-Arts Architects iv
Soltmann, E. G xvii
Spaulding Print Paper Co xix
Standard Fire-escape & Mfg. Co xix
Stanley Works ix
Sturtevant Co., B. F xi

T
Taylor, J. W xiv
Thomas & Smith xx
Thorn Co., J. S ..... e-o-w, ix
Troy Laundry Machinery Co xx
Trussed Concrete Steel Co vii
Turner Construction Co vi

U
U. S. Mineral Wool Co viii
University of Illinois iv
University of Michigan iv
University of Pennsylvania iv

V
Vaile & Young xx
Van Dort & Co., G. B. xi

W
Wagenhorst & Co., J. H xiv
Washington University iv
Wight, W. N., & Co. vi
Winslow Bros. Co., The xv
Wirt, F. B xiv
Wolff Mfg. Co. ..... o-a-m, xiii

Y
Yale & Towne Mfg. Co x

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PERSONAL MENTION

BOSTON, MASS.—Mayor Fitzgerald has appointed Patrick R. Kickham, a carpenter living at 11 Codman Hill Street, Roxbury, a member of the commission to revise the building laws for the city of Boston. Mr. Kickham is added to the commission, making its present membership eight.

CLEVELAND, O.—Diamonds and jewelry valued at $1,800 were stolen August 8 from the residence of I. J. Lehman, the architect, at No. 1984 East Eighty-fourth Street. The burglar cut a hole in the rear door and after obtaining entrance ransacked the building. Mr. Lehman is the senior member of the firm of Lehman & Schmitt, who are the architects for Cuyahoga county's new Court House.

COLUMBUS, O.—Messrs. Patton & Miller, architects, Chicago, Ill., have opened a branch office in this city at No. 502 Columbus Savings & Trust Building. G. E. Overton is the superintendent for the Ohio end of the business.

DETROIT, MICH.—Messrs. Wm. S. Joy and Fred T. Barcroft, architects in the Ferguson Building, 230-234 Woodward Avenue, have dissolved partnership.

PARIS, FRANCE.—Mr. George A. Licht, a student of architecture ot the École Nationale des Beaux-Arts, has just won the Grande Médaille d'Émulation, offered by the French Government to the student receiving the greatest number values in his class. Mr. Licht is a "Prix de Paris" and holds the two-years scholarship offered by the Society Beaux-Arts Architects in New York. He is a pupil of M. J. L. L. Pascal. Mr. Licht also won, two months ago, the Grande Médaille offered by the Société Centrale des Architectes Français for the pupil of the first class receiving the greatest number values in projects only during the last three years.—*New York Herald.*

PATERSON, N. J.—Mr. Charles E. Sleight, through his counsel, Bilder & Bilder, has started suit in the Circuit Court against Morris Grenstein and Isaac Horwitz for $1,000 on contract. Sleight sets forth in his declaration that he is an architect of this city and that on June 16 he was engaged by the defendants to draw plans for the alterations to a building at the corner of Fair and Washington Streets, the alterations to cost $15,000, and as his pay he was to receive 2½ per cent. of this sum. The plans, he alleges, were suitable to the defendants, but without any warning they dispensed with his services, and it is to recover his commission that he is bringing suit.

PHILADELPHIA, PA.—Cecil W. Van Meter, an architect, who resided in this city, at 3704 Locust Street, died August 12 in the Presbyterian Hospital from an abscess of the brain. The young man, who was 25 years old Saturday, was graduated from the University of Pennsylvania this year.

PORTLAND, ORE.—Mr. H. J. Hefty, architect, has gone to Europe for four or six months.

COMPETITION

THE Cape Cod Pilgrim Memorial Association offer five (5) prizes of $200 each, to be awarded by their Building Committee, to competitors submitting to them designs for a monument to be erected at Provincetown, Mass., to commemorate the Landing of the Pilgrims and the Signing of the Compact. The Committee do not oblige themselves to use any of the designs thus submitted, or employ any of these competitors. The monument is to be of granite, not less than 250 feet in height, built upon a hill of sand formation, about 90 feet above sea level. It is to have an inclined walk (no steps) of concrete, from bottom to top of interior. Each competitor may submit a brief description of his design, calling attention to any points of interest. No estimates are to be submitted, as the Committee will obtain figures upon such of the designs as commend themselves to their acceptance. The monument is to cost about $80,000. Only two drawings are to be submitted, a plan and an elevation, except that a second elevation may be sent in if necessary to explain the design. No other drawings will be received. They are to be made upon paper measuring 18 inches by 24 inches, with a single line for a border. No motto or device shall be put upon the drawings, but they shall be accompanied by a sealed envelope containing the name of the competitor. These drawings and envelopes will be numbered as received, and they will be known to the Committee by these numbers. All drawings must be delivered to Willard T. Sears, 70 Kilby Street, Boston, Mass., consulting architect of the Building Committee, on or before October 1, 1906. J. Henry Sears, Lorenzo D. Baker, Wm. B. Lawrence, Building Committee, the Cape Cod Pilgrim Memorial Association.

Boston, August 15, 1906. (1600-1601)

NOTES AND CLIPPINGS.

MURAL DECORATIONS FOR THE HARRISBURG CAPITOL.—Four of Edwin A. Abbey's decorative paintings for the capitol at Harrisburg, Pa., are almost finished.

A GREAT CONCRETE CHIMNEY.—Out in Butte, Mont., where the great stamping-mills and ore-concentrating works have turned the mountain city into a titanic inferno of tall chimneys, belching black and sulphurous fumes, stands one tremendous tower, the top of which is 350 feet above the ground. When its erection was planned the first idea was to build it of brick. That would have required a thickness of twelve or fifteen feet of masonry at its base. But a constructing engineer from Chicago was called into consultation. He proposed that the huge chimney be built of concrete, and, with some misgivings, the plan was adopted. He prepared a foundation six feet deep, twelve by twelve, of concrete, with a number of steel reinforcing rods. Beginning at the ground level, he carried two thin concrete shells upward for 100 feet. The outer one is only nine inches in thickness, while, separated by four inches of space from this, is an inner shell five inches thick. At a height of 100 feet these two unite into a single seven-inch shell of concrete, which extends skyward until the vast height of 350 feet is reached. This chimney, many feet higher than our modern city skyscrapers, is therefore composed of but fourteen inches of concrete at the base and half that amount for the upper 250 feet. It is not of plain concrete, but is reinforced both horizontally and vertically with a number of small steel rods, which were held in place until the concrete had been deposited around them, making a reinforced-concrete body superior in every way to both steel and brick masonry. There are in the United States scores of these wonderful chimneys.—*Technical World Magazine.*

END OF THE VIENNESE LOCK-OUT.—After a lock-out lasting for nearly two months the master-builders of Vienna have come to terms with their employés and 60,000 men and women have gone back to work. They successfully resisted the bricklayers' demand for a minimum daily wage of five kronen (approximately $1.05), but agreed to concede 4.66 kronen for the rest of the current year and the first four months of next year, and to promise a wage of 5.4 kronen for the remainder of 1907 and the whole of 1908. The highest previous wage was four kronen. The apparent advantage obtained by the workmen will, however, really depend upon contingent agreements concerning reductions for periods of bad weather, but the presumption is that previous conditions have not been altered to the disadvantage of the men, who appear to have obtained an immediate increase of 16 per cent. and a prospective increase of 33 per cent. The prevalent opinion seems to be that this increase is not unjustified, as the cost of living in Vienna is estimated to have increased by from 20 to 30 per cent., according to district, within the last few years. An interesting feature of the settlement is that it affords the first instance in which an Austrian trade dispute of such dimensions has been concluded by an arrangement covering a term of years.—*New York Evening Post.*

QUARRYING GREEK MARBLE.—A report from Consul George Horton at Athens indicates reviving interest in the ancient marble quarries of Greece. Among colored Greek marbles of great beauty may be mentioned those of the Island of Scyros; the green marbles of Tinos; the Cipolino marbles of Eubœa, of two shades of green that blend in broad, wavy lines that run through the stone; and the red marbles of Mani, known as Rosso Antico. This latter is of a blood-red color, often traversed by veins of white, or sometimes found in solid red. A British company owns the whole of the white and blue quarries on the Penteli Mountain Range, and have spent money lavishly in developing them. The private railway of the company extends fifteen miles from the inclined plain of Mount Pentelicus. Blocks weighing twenty tons are taken to the company's fashioning works, whence they are conveyed to the Athens railway, a distance of about eight miles, also over a private line owned by the company. Work at the Penteli quarries is kept in full swing day and night and about 1,000 men on the payroll. It is the aim of the company to place marble on the market at less prohibitive prices than those which have prevailed hitherto. Blocks weighing as high as forty tons have been taken down to the port at Piræus and loaded on shipboard for export. The Penteli marble is almost pure carbonate of lime, but there is more sparkle in the crystals than is

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These valuable drawings are reproduced from the little-known collection of Twopeny's work in the British Museum. They were made from buildings in various parts of England during the first half of the last century. They are done from the point of view of the enthusiastic antiquary with knowledge and discrimination. Their great value as a record is increased by the fact that many of the subjects have since disappeared. In quality Twopeny's work is neither bald, as in the usual architects' drawing, nor merely picturesque as in Nash and Prout. Ruskin's best hardly excelled the workmanship of Twopeny.

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found in Italian marble. Its close texture and high purity of color have given it an undeniable claim to its description as a "white marble."

But of all the white marbles of the world perhaps the most beautiful is the finely grained and spotless pure Parian marble of the Island of Paros. The celebrated statues Venus de Milo, the Venus de Medici, the Venus Capitoline, were made of this marble. These quarries, as well as those of the adjoining Island of Naxos, have been taken over by this same English company.—*Exchange.*

CEDARS OF LEBANON.—The cedars of Lebanon, famed throughout Christendom because of the reference made to them frequently in the Scriptures and by early classical writers as well, seem destined to suffer the fate of other decaying species, such as the buffalo, which once roamed the plains in countless numbers, and the *Sequoia gigantea,* the giant redwood of California, which seems doomed to rapid extinction. The cedars of Lebanon, says Professor G. Frederick Wright, in *"Records of the Past,"* belong to this class of nearly if not quite extinguished species, but the few remnants which still are accessible have double interest because of their history, their central location, and future possibilities. David, three thousand years ago, is recorded as having built in Jerusalem a house of wood from these trees. Through the co-operation of Hiram, King of Tyre, Solomon brought great rafts of cedar from Lebanon to Joppa, and carried the timber up the steep mountain slope to Jerusalem for the first temple, while in the building of the second temple, under Ezra and Nehemiah, the same source of supply was resorted to. Ezekiel refers to the use of this wood in shipbuilding. and Isaiah for the manufacture of idols. The principal grove of cedars now extant consists of about four hundred trees, growing in an amphitheatre at the head of the Kadisha River, at an elevation of 6,300 feet above the sea and only about twenty-five miles distant from it. The preservation of this group of trees is due to the sacred character it is presumed to bear. The word "kadisha" is the Hebrew for "holy." The grove is now protected by a neatly built, high stone wall, and, viewed from every point, stands out like an oasis in a desert, presenting a striking contrast to the general barrenness surrounding it.

"As one stands upon the summit of Lebanon," says Mr. Wright, "4,000 feet above the cedars, and looks down upon this ancient grove, and his eye takes in the sites of ancient temples on the western flank and the vast expanse of the Mediterranean beyond, and, turning to the east, sees the plain spread out before him, with the ruins of Baalbek in the centre, he can but feel as never before the force of the words of Holy Writ, 'All flesh is as grass, and as the flower of the field it perisheth.' Over this field in successive waves have come and gone all the great nations of antiquity. Here are the relics of the Assyrian, the Babylonian, the Egyptian, the Phœnician, the Grecian, the Roman, the Moslem, and the Crusader. Each has done his part to destroy its noble covering of forest and to add to the desolation wrought by his predecessor."

GARGOYLES.—Relatively unimportant compared with many other features of Gothic, the gargoyle has always appealed to popular fancy. It is a detail that can scarcely be overlooked, owing to its position and the grotesque forms it has been made to assume. There is something fascinating in the appearance of a cathedral church during a rainstorm, when the whole building is set with little jets of water issuing from the jaws of dragons and wyverns, goblin birds and writhing cobolds. The number and variety of roofs on Gothic churches of large extent, and the need of draining even much smaller surfaces than are found on the actual roofs, are supposed to furnish the reason for the many spouts that end in gargoyles or have gargoyles associated with them as a decorative feature. As the Gothic developed, gargoyles increased with the greater care expended on decorations and the protection of the stonework. But it is not necessary to speak of gargoyles in the past tense, for they are commonly introduced on modern churches and occasionally are still in demand for secular buildings. It is true that modern construction for the relief of roofs from water, combined with modern drainage, no longer exacts the decorated waterspout as a working feature. They need be "practical" no longer. But for three centuries the gargoyle remained so fixed a feature of Gothic architecture that a decent feeling for consistency demands its presence in modern examples, just as the hat retains its band and the coat its lapels. though band and lapel are no longer working parts. The once useful feature has become an integral part and holds its own as a decoration. It would be difficult to say

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when the gargoyle first made its appearance; perhaps, in opposition to the view of Viollet-le-Duc, it was coincident with elaborate stone structures, and in a less striking form belonged to the Romanesque before it blossomed in the Gothic. Nowhere more clearly than in the gargoyles of Gothic churches does one perceive that a wooden prototype has been repeated in stone. It is plain that a log bored or channeled lengthwise to form a waterspout has been finished in some eccentric shape—a chimæra, a harpy, a nondescript beast—and when required for a structure all in stone has been transferred to that material. At the same time it is worth noting that we have no certain records of gargoyles until after the Crusades, and that fact leads us to the Orient for the fashion in gargoyles that meets us in the thirteenth century. Greek and Roman architecture are not without examples. But it is in the extreme Orient that we find exact parallels—in Ceylon, rainy Burmah, and Siam. Taken by themselves, divorced from their subordinate positions, they strike us as a trifle coarse with the grotesquery of their distorted masks and muzzles. But seen in connection with the figures of divine beings, and saints, as they stand on their pedestals under their canopies, the whole combining to make a façade such as that of Rouen or Chartres appear like an intricate field of lacework, the gargoyles form a contrast at once pleasing and in harmony with good sense; they are minor parts of a great intricate whole, and should not be thought of separate from the other sculpture.—*Architectural Review.*

BUILDING NEWS.

(The editors greatly desire to receive information from the smaller and outlying towns as well as from the larger cities.)

ABERDEEN, S. DAK.—Bids are asked by James Knox Taylor, Supervising Architect, Washington, D. C., until 3 P. M., September 18, for painting, miscellaneous improvements and repairs at the U. S. Post Office.

ADRIAN, MICH.—The committee on public library invites architects to submit plans within thirty days, free of cost, for the Carnegie library to be erected here. The cost of the building when completed will be about $25,000.

ALEXANDRIA, LA.—J. A. Bentley, it is reported, is contemplating the construction of a fireproof hotel, to cost $150,000.

ASHLAND, WIS.—Architect Glenn L. Saxton, Minneapolis, Minn., has plans for a flat building for Peter Johnson. Cost, $60,000. Bids will be received by the owner.

ATLANTA, GA.—It is stated that Joel Hurt has decided to erect a theater at Ivy Street and Exchange Place, at a probable cost of $75,000.

The King Hardware Company will erect a new business house at a cost of $75,000.

The local lodges of Masons will erect a temple at a cost of $200,000. Morgan & Dillon are the architects.

ATLANTIC CITY, N. J.—Plans are being prepared for Josiah White & Bro. for an addition to the Hotel Traymore. It is to be a nine-story reinforced concrete building. Estimated cost, $600,000.

AUBURN, ME.—Congress has appropriated $75,000 for a new post office at Auburn.

AUGUSTA, GA.—Mowbray & Uffinger, 92 Liberty Street, New York, are preparing plans for a building to be erected by the Planters' Loan and Savings Bank.

BATON ROUGE, LA.—Favrot & Livaudais, New Orleans, La., have been commissioned to prepare plans for a $40,000 chemical laboratory to be erected at the State University.

BIRMINGHAM, ALA.—George Bates, pastor of the Pilgrim Congregational Church, is having plans prepared for a three-story pressed-brick building to be used for church purposes. A gymnasium will be included.

BOSTON, MASS.—Sealed proposals, endorsed: "Proposals for Equipment Building," will be received at the Bureau of Yards and Docks, Navy Department, Washington, until 11 o'clock A. M., August 18, 1906, and then and there publicly opened for constructing a corrugated steel and concrete extension of Building No. 103, Navy Yard, Boston, Mass. Plans and specifications can be seen at the bureau, or will be furnished by the commandant of the navy yard named. Mordecai T. Endicott, Chief of Bureau.

BROCKTON, MASS.—Howard & Foster, of this city, are to erect a four-story shoe factory in Pleasant Street. The building is to be of frame construction, 151 feet frontage by 250 feet deep. Cost, about $50,000.

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Bristol, Va.-Tenn.—J. M. Barker and J. B. Lyon will let contract at once for the erection of proposed five-story brick and stone building. Elevators, fire vaults, steam heat, electric lights, etc., will be installed.

Charlotte, N. C.—The congregation of the Presbyterian and Associated Reformed Churches of this city is stated to have taken preliminary steps to build a $50,000 hospital to take the place of the present Presbyterian Hospital.

Chattanooga, Tenn.—Plans have been adopted by the Chattanooga Hotel Company for the erection of an hotel to be eleven stories, 176x120 feet, and cost over $1,000,000.

Chelsea, Mass. — Competitive sketches are being prepared for the new hospital at the Soldiers' Home, Chelsea, Charles Nash, superintendent. Approximate cost of building, $100,000.

Chicago, Ill.—Architect John S. Flizikowski, 70 La Salle Street, has prepared plans for and is taking figures on a school building to be built in Hegewisch for St. Florian parish. It will be three-story, 64x90 feet, have concrete foundation, pressed brick and stone front, steam heat, structural iron work, and will cost $30,000.

Architects Frank L. Fry & Co., 132 Monroe Street, have completed plans for an apartment building to be built at the northeast corner of Orchard Street and Arlington Place for B. F. McConnell. It will be three-story, steam heat, marble and mosaic work, mantels, wiring for electric light, contain eighteen apartments of five and six rooms each, and cost about $60,000.

Architect S. N. Crowen, Borland Block, is preparing plans for an apartment building to be built at the southwest corner of Lake View Avenue and Surf Street for William Remy. It will be three-story, 80x115 feet, to have steam heat, electric light, structural iron work, contain six apartments of twelve rooms, each apartment to have three bath-rooms and laundry on the same floor, and cost $60,000. The same owner, it is said, will erect a building, to contain three apartments, fronting on Surf Street.

Two new theaters are to be erected in this city. One will be erected by Hyde & Behman, of New York, at West Madison and Green Streets; the other by Mort. H. Singer, manager of the La Salle Theater and Empire Circuit Company, at 255 to 261 Clark Street.

It is reported that an eight-story building of mill construction, to cost $100,000, will be erected on Wabash Avenue, north of Franklin Street. No architect named.

Plans are being drawn for a hotel to be erected between Michigan and Wabash Avenues, south of the Auditorium. It is to have nine stories.

The Calumet Club will erect a $300,000 addition to their clubhouse, on Michigan Boulevard.

D. H. Perkins, architect for the Board of Education, is stated to have completed plans for the Washington School, on Grand Avenue, near Morgan Street. It will contain twenty-six classrooms, an assembly hall, and a gymnasium, and cost $175,000.

Childress, Texas.—Plans for a brick or cement-stone edifice to be erected by the M. E. Church, South, are on file with J. E. Flanders, architect, Dallas, Texas; also with the Quarles Lumber Company, Fort Worth, Texas, and Childress.

Cincinnati, Ohio.—C. C. Weber, architect, Fourth and Walnut Streets, has prepared plans for a residence for Mrs. Alex. Clark, of South Crescent Avenue. Cost, $25,000.

E. H. Dornette, architect, Pickering Building, has completed plans for rebuilding the Third Intermediate School, Franklin, near Main Street, which was burned some time ago. The improvement will cost $52,000.

The congregation of the United Brethren is said to be considering erecting a new church in Reading Road, opposite Ridgeway Avenue, Avondale. The cost of the building will be $75,000. N. Auer is president of the United Brethren congregation.

Clarkton, N. C.—Bids are being received for the erection of a hotel and bank building. Plans and specifications on file with J. C. Gore.

Cleveland, Ohio.—Architect Abraham Garfield will prepare plans for a club building for the Cleveland Country Club. Cost, $100,000.

Edmund M. Wheelwright, Boston, Mass., has been selected as consulting architect for the new Museum of Fine Arts Building, to be erected at Cleveland.

A school building is to be erected here at a cost of $100,000.

Clinton, Iowa.—The Iowa Telephone Company will erect a new building here, and also put in an underground conduit system at a cost of $150,000.

Dallas, Texas.—Lang & Witchell are preparing plans for a $25,000 residence to be erected by L. S. Thorne.

Plans for the new building of the Y. M. C. A. have been approved by the directors. The building will be located on the south side of Commerce Street, and will be 65x200 feet, and will cost $100,000.

J. W. Hunt, of this city, and J. W. West, of Los Angeles, Cal., will build an eight-story hotel at this city which will have about 210 rooms. The estimated cost is $350,000.

Dalton, Mass.—Senator W. Murray Crane has commissioned Harding & Seaver, architects, of Pittsfield, Mass., to draw plans for residence to be erected on Wilson Avenue. This residence will be one of the handsomest in the Central Berkshires.

Denver, Colo.—The Colorado Southern Railway Company (H. W. Cowan, Chief Engineer), is reported to be arranging to

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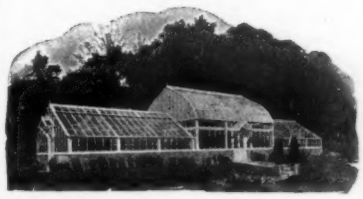

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erect a depot at Sixteenth and Bassett Sts., at a cost of $50,000.

DENVER, COL.—Proposals will be received by Bennett & Meyers this week for the construction of a fireproof brick building of 5 stories and basement on Champa Street, between Fifteenth and Sixteenth Streets. According to the plans of the architect, F. E. Edbrooke, the structure will cost about $125,000.

DERMA, MISS.—It is reported that the new bank, organized with H. O. McMain of Citronelle, Ala., as president, will erect a bank building.

DES MOINES, IOWA.—Bids will be considered by the city for the completion of the library building. Cost will be about $46,000.

The Bohemian Roman Catholics are preparing to build a church at an estimated cost of $35,000. Rev. Joseph Janesek, care of Fafeyta Hall, 996-998 Michigan Avenue, is at the head of the enterprise.

It is stated that plans are now being completed for a $100,000 asylum to be erected at this place.

DOVER, N. H.—Plans have been submitted by Hartwell, Richardson & Driver for the new Masonic Hall, to cost $80,000.

DULUTH, MINN.—A site has been purchased, on which it is proposed erecting the court house, which is to cost about $300,000.

DURHAM, N. C.—A new bank, organized with Y. E. Smith, president, will erect a brick building in East Durham.

ELIZABETH, N. J.—The Board of Managers of the General Hospital has decided to erect a home for nurses and an ambulance house to cost $35,000.

EVANSVILLE, IND.—A new company has been organized here for the purpose of erecting a $50,000 opera house and hotel. The hotel is to be four stories high. Plans are being prepared and bids will shortly be received. George P. Kidd, owner of the Kidd Block, is at the head of the company.

FAIRFIELD, CAL.—Bids are asked by the Board of Supervisors, until September 1, for the erection of the county jail.

FAIRMOUNT, W. VA.—Architects Baldwin & Pennington, 311 North Charles Street, Baltimore, Md., have prepared plans for a four-story brick and stone Y. M. C. A. building. R. T. Cunningham, chairman of committee, Fairmount. Cost, $80,000.

FORT SMITH, ARK.—W. H. Blakely, architect, it is stated, has prepared plans for a 4-story brick and stone building for Atkinson & Williams, at a cost of $60,000.

A five-story hotel is to be built here at a cost of $200,000. It will be of steel construction. Haynes & Barnett, architects, Frisco Building, St. Louis, Mo.

FORT COLLINS, COL.—We are informed that the members of St. Luke's Church have decided to build a new edifice. The building site has been purchased and a committee has been appointed to have plans drawn for a new church, guild house and rectory, to cost about $30,000. J. W. Lawrence is the secretary.

FORT WORTH, TEXAS.—The Armour and Swift meat packing interests of Chicago will unite in constructing a permanent ex-

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position building here for the use of Fort Worth stock show, which will cost $200,000

Frankfort, Ind.—Bids will be received until August 30 by the Board of School Trustees (Q. A. Kennedy, President), for constructing, plumbing, heating and lighting a library building. Grindle & Stiles, architects, Muncie.

Franklin, La.—A new bank, organized with James Peterman, president, will erect a $30,000 building.

Frederick, Md.—Plans are being prepared by Architects Frank E. and Henry R. Davis, 220 St. Paul Street, Baltimore, for a granite banking building to be erected by the Frederickstown Savings Institution. The building will be one-story high and 35x80 feet.

Gainesville, Ga.—Contract has been let for the erection of $40,000 building at the Military Academy. Prof. A. W. Van Hoose is president of board of directors.

Grafton, W. Va.—The lodge of Elks, No. 308, will erect a $50,000 building. Address the secretary for information.

Homestead, Pa.—The Masonic orders of Homestead are organizing the Masonic Temple Company to erect a masonic hall. Cost, $50,000. No architect selected. Address H. M. Blakley, Diamond National Bank Building, Pittsburg.

Houston, Texas.—The Beth Israel congregation will erect a temple here to cost from $60,000 to $80,000. Charles Page, architect.

Jackson, Miss.—The Millsaps College will erect a library to cost about $30,000. Address W. B. Murrah, president, for information.

The Illinois Central Railway Company will enlarge the union depot here at a cost of about $75,000.

Keyser, W. Va.—Mineral County will vote September 18 on a $50,000 bond issue for the erection of courthouse. Address County Judge.

Lafayette, La.—Andrew J. Bryan & Co., Hennen Building, New Orleans, La., are preparing plans for two modern school buildings, one to cost about $50,000 and the other about $8,000.

Lawrence, Mass.—James E. Allen, architect, has been selected to draw the plans for the $50,000 Administration Building for the Essex County Training School in this city.

Architect James E. Allen, 283 Essex Street, Lawrence, is drawing plans for a building to be used for administration purposes for the county of Essex and to be built in Lawrence. The building will be of stone and brick, 2 1-2 stories high, 80x120 feet. Approximate cost, $50,000.

Leavenworth, Kan.—The Government is preparing to erect a federal female prison here.

Lee, Mass.—The building committee for the new Carnegie Library have accepted the plans of Architect Henry S. Moul, of Hudson, N. Y. The building will be of rock-faced marble with cut trimmings, the whole to be surmounted by a dome. Contractors will be asked to submit figures.

Leonardtown, Mo.—Board of School Commissioners of St. Mary's County has decided to erect school buildings in the First, Third, Fifth and Sixth districts.

Lewistown, Mont.—The county will vote in the fall on the erection of a court house to cost $100,000.

Lima, O.—Henry Deisel, of this city, has decided to erect a $50,000 residence. It will be of stone and brick and is to be started as soon as plans can be completed. B. F. Matthews, Lima, is architect. M

Lincoln, Neb.—It is proposed to erect a $200,000 high school here. Address secretary Board of Education.

Lyndhurst, N. J.—Bids will be received until August 27 by the Board of Education for erecting an eight-class room school on Stuyvesant Avenue. Wm. M. Meeker, architect, People's Bank, Passaic.

Madison, Wis.—State Legislative Committee has accepted plans of Geo. B. Post & Sons, architects, 33 East Seventeenth Street, New York, for the new State Capitol Building. It is expected that the building will ultimately cost about $3,000,000, though the Legislature has appropriated only $650,000 so far.

Madisonville, Ky.—Plans have been drawn by Harris & Shepbell, architects, for a modern Y. M. C. A. building for this city.

The American Architect and Building News

VOL. XC. SATURDAY, AUGUST 25, 1906. No. 1600.

CONTENTS

SUMMARY 57-58

Educating the Public to Appreciate Architecture.—Education in Art by Magic-Lantern.—A Test of the Moore Vacuum-Tube Light.—Death of George W. Cady, Architect.—The Sanitary Aspect of the Lourdes Frenzy.—The Vosmaer Ozonizing Process of Filtering Water.—Salon in the Canal Zone.

PROPORTIONING CONCRETE 59

REVIVAL OF THE OPEN-AIR THEATER 61

EARLY ILLUMINATING OILS 61

A MODERN GEORGIA HOUSE 62

COMMUNICATIONS: 63

Substantial Performance.—Concentric Boulevards.

ILLUSTRATIONS:

Branch Public Bath, West Sixtieth Street, New York, N. Y.—Elevation and Cross-Section of the Same.—Longitudinal Section of the Same.—Plans of the Same.—Details of the Same.—House of Mrs. H. P. King, Pride's Crossing, Mass.—Entrance to the Same.—Entrance-Hall: House of M. Newborg, Esq., 52 East Fiftieth Street, New York, N. Y.

Additional: Church at Edam, Holland.—Fish-Market, Leyden, Holland.

NOTES AND CLIPPINGS 64

SOCIETIES, PERSONAL MENTION, ETC.

ONE of the matters considered at the late Congress of Architects was how the public might best be educated into an interest in and understanding of the art of architecture. Señor Francisco del Villar y Carmona, one of the Spanish delegates, at the close of his paper, recapitulated his suggestions under eight or nine heads, some of them being merely banal, as the hanging of architectural photographs on schoolroom walls, others seeming to the American mind merely freakish, while others are both ingenious and practical. To Americans, who have no enforced military service, the suggestion that instruction in architecture should be given in barracks to those enlisted men who desire it seems very absurd, though those of us who have lived in Paris ateliers realize that the rank and file of the French army contains not a few conscripts drawn from the classes of the École des Beaux-Arts and that these, at least, would take part in the personally conducted trips about the barrack towns which the speaker suggested might be made regularly with much profit. But as the object of the discussion was to provide means of educating the public and not the art-student temporarily serving in the ranks, the suggestion that the cinematograph should be utilized at public expense is much more to the purpose and the idea deserves to be tried, and with thoroughness.

IT is impossible to believe that the illustrated lectures given at the Boston Public Library and the similar ones given in various schoolhouses in this city, under the charge of the Board of Education, are not productive of good. But it must be conceded that that good is likely to be somewhat evanescent, because these pictorial occasions are spasmodic and incidental, while to achieve lasting results a "damnable iteration" is essential. It would be an interesting educational experiment to select some small town, like Attleboro or Newburyport, Mass., where there are art industries and where the young people naturally gravitate toward them when they begin to earn their own livings, and there operate in public, on the common or wherever else, a cinematograph or magic-lantern, night after night for two hours, throwing upon a screen or wall masterpieces of architecture, painting, sculpture and the applied arts. It is easy enough to picture the interest and attention that would be excited while the experiment was a novelty, but not so easy to conceive what effect, if any, would be noticeable in the community at the end of five years of continuous performance. In these five years boys and girls of fourteen would have been passing through their most impressionable period, and it would seem as if those who during these years had been glimpsing once or twice a week beauties of art of various kinds which were unknown to their elder brothers and sisters should, by this absorptive process of education, be fitted for a higher grade of effort than these elders ever dared to attempt.

AT the instigation of *The Illuminating Engineer,* a very interesting test has been made by the Electrical Testing Laboratories of the efficiency of the Moore Vacuum-tube light, to which we referred a few weeks ago, as compared with that of Nernst arc-lamps and Edison incandescent-lamps. The tests were made in the gallery of a picture-dealer, who, as it seems, always in search of the best lighting for his rooms, has there installed one system after another as it came along, not displacing any of the earlier apparatus, so that the place is essentially a museum or testing-laboratory as it stands. The Moore tube in use had a diameter of one and three-quarter inches and a length of one hundred and seventy-nine feet—sufficiently impressive figures!—and the light issuing from this elongated electric spark, if it is fair so to term it, was photometrically compared with that issuing from seven six-glower Nernst lamps, and again with that issuing from eighty-eight eight-candlepower and twenty-five sixteen-candlepower Edison lamps, the measurements being compared by units.

WITHOUT going into the details of technicality, the result seems to be that, compared on a basis of unit energy, the Moore tube furnishes 20 "luces" as against 11.2 by the Nernst lamp and 3.6 by the Edison lamp, a "lux" being the illumination produced on a vertical surface at a distance of one metre by a light-source of one candlepower. It further appears that this particular tube had been in operation for one thousand hours and that during this time it had caused no outlay for maintenance—the cost of current, of course, being here disregarded in the following comparison. It also appears that the cost of maintenance—the renewing of carbons and replacing of lamps, that is—during one thousand hours of use would be in the case of Nernst lamps $39.20, and in the case of Edison lamps $27.20. If the cost of current consumed in each case chances to be the same—the report is not clear on this head—the balance inclines sharply in favor of the vacuum tube, when economy of

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cost and simplicity of manipulation are considered, while the reproductions of photographs of the picture-gallery, made under the lighting of the three several systems, indicate that the light from the Moore tube has a far higher actinic value than that issuing from either of the other systems tested.

THE number of that respectable and respected branch of the profession that includes the architects who were brought up at the carpenter's bench was diminished by the death last week of Mr. George W. Cady, F. A. I. A., who for forty-six years practised as an architect in Providence, R. I., and who, though just entering his eighty-second year, was still actively engaged in the regular pursuit of his calling. Possibly the young architects of to-day who have profited, and well, by superior educational opportunities, are disposed to look askance at and speak slightingly of the men of the class to which Mr. Cady belonged, but they should remember that if they can believe themselves to be the aristocracy of the profession, these older men who graduated from the bench surely deserve to be held the yeomen of the profession. They had not the opportunities their younger fellows have had, but it is quite possible that they profited by those within their reach in a way that should shame the luckier aspirants for to-day's laurel-wreaths: at any rate, they had the homely satisfaction of housing, in comfort and with such elegance and architectural propriety as their contemporaries could appreciate, the men and women of the great Civil War period, the character-building epoch of this country. The work done by these self-educated architects is not of a kind, perhaps, that would be made the object of an architectural pilgrimage, but it is worthy work, done with purpose and feeling, and, as we say, accepted as satisfactory by the generation for whom it was done. Can more than this be said of the intention and accomplishment of the younger architects of the day who have enjoyed advantages these elders never glimpsed?

IT is very generally known that it is practically hopeless for modern civilized races to attempt to eradicate cholera, so long as the faithful Mohammedan flocks by the ten thousand to the Kaaba at Mecca. The decimation, and worse, that regularly takes place amongst the hordes passing along the great pilgrim routes in Asia would be greatly increased if the majority of the pilgrims were invalids seeking health and not lusty zealots seeking only to make sure of their entry into Paradise properly accompanied with numerous houris. Evil as are the hygienic conditions that surround these Asiatic ambulations, there is every reason for supposing that relatively as great harm is done by the passing through France of the multitudes that flock, at this season of the year, to Lourdes, in the hope that their ills and ails and sores may be washed away in the healing waters which are said never to be changed, and so become fouler and more foul with each succeeding day. Guide-book makers ought to advise with special particularity as to routes and railroad lines and hostelries most frequented by these unfortunates, so that the average sane and sound voyager may avoid them sedulously. The reality of the danger has attracted attention, and recently Professor Jean de Bonnefon has received from over eleven thousand pathologists, physicians and sanitarians their opinion as to the dangerous character of the Lourdes frenzy. The great majority of his correspondents assert their belief in the reality of the danger to the community caused by these convoys of the diseased and ailing. We hope that the five thousand gallons of water from the shrine of Our Lady of Lourdes which reached this country last week for use by the Fathers of Mercy in Brooklyn, on Wednesday, may not be the means of dissemintaing through that community the germs and bacteria lately discarded by the *gueux* and *sansculottes* of Western Europe.

IF M. de Bonnefon and his backers cannot weaken the faith of the Lourdes pilgrims, perhaps they can induce the holy fathers in charge of the sacred spring and pool to treat the water by the Vosmaer ozonizing process. This process seems likely to give a needed relief to the unfortunate city of Philadelphia, for a company stands ready to install a plant at a cost of over a million dollars which shall furnish a million gallons of purified water daily at a reasonable charge, and pledges itself to sell the plant to the city at any time at cost price. By this process the ordinary Schuylkill water is first passed through a rapid sand and coke filter and then through the water thus partially clarified is pumped ozonized air, which effectively disposes of all germs that were not filtered out in the first stage of the process. Various attempts have been made to make use of the germicidal properties of ozone, but they have all been found too costly for practical use, but the Vosmaer system is based on a method of producing ozonized air at so low a cost as to make its use a commercial possibility.

THE curious obfuscation that seizes upon executive officials who hanker to be "doing things," whether they properly may or no, is delightfully made patent in the defensive explanation made by Mr. Shonts, Chairman of the Panama Canal Commission, who seeks to show that the eight-hour law is not applicable to work on the canal. "It is therefore not seen," says he, "why a law passed in the interest of American labor at home should be made applicable to alien labor *who probably never heard of its existence"!* And yet, weekly, we are ruthlessly separating wives from husbands, children from parents, the sick from the well and deporting them, just because these unfortunate aliens had not "heard" of our thrice-blessed labor laws. The elasticity of executive interpretation deserves the attention of our higher courts. In the same "interview," Mr. Shonts gives a curious confirmation of the belief that the whirligig of time does bring its revenges. Speaking of the unsatisfactory accomplishment of negro and Indian labor, Mr. Shonts says: "We are now looking to the securing of white labor from the north of Spain, . . . which gives evidence of being well adapted to the work." One may easily fancy the shades of the countless victims of the companions of Pizzaro gleefully gibbering as they watch the descendants of their oppressors "making the dirt fly" under climatic conditions their forebears could not endure.

PROPORTIONING CONCRETE.[1]

AS the uses for concrete increase, the necessity grows for a greater economy in construction. To reduce the cost of materials one naturally considers the use of leaner proportions. To decrease the proportion of cement without corresponding loss in strength, the aggregate must be specially graded or such materials selected as will increase the density of the set concrete.[2]

Just how far it is economical to go in increasing the density depends upon the conditions. If, as might be possible on a small job, the cost of materials is reduced 10 cents per cubic yard by substituting a leaner but denser mixture, and, at the same time, if the cost of labor of preparation is increased by 15 cents per cubic yard, it is obviously poor economy. It may, in fact, sometimes cost more in time and trouble and materials to make a lean concrete of high strength than to attain the desired result by using more cement and the materials nearest at hand.

On the other hand, if a large mass of concrete is being laid per day, it may be good economy to spend money for special tests and provide extra machinery for preparation, and even to pay a higher price for the sand or stone in order to secure that which is best suited for the work. The question, then, is one which must be settled by estimates of cost, and the size of the job is the chief determining factor.

However, special grading of materials is a matter which interests us much less frequently than the practical selection of proportions for structures where the choice of aggregates is limited and the character of the concrete such that the problem is simply one of selecting the best relative proportions of the available coarse and fine aggregate, or, perhaps, comparing two materials which may be obtained at trifling difference in cost. Therefore, before considering the effect of different characters of aggregate, we should first study the experimental methods for proportioning two materials and for simple comparisons of quality.

In experimental determinations for selecting proportions it is a generally accepted fact that for maximum strength we should aim at a mixture having the smallest percentage of voids, but it is by no means settled as to *how* this result shall be obtained. even experimentally. For convenience in studying the question we may classify the various plans which are followed:

(1) Arbitrary selection; one arbitrary rule being to use half as much sand as stone, as 1:2:4 or 1:3:6; another, to use a volume of stone equivalent to the cement plus twice the volume of the sand, such as 1:2:5 or 1:3:7.

(2) Determination of voids in the stone and in the sand, and proportioning of materials so that the volume of sand is equivalent to the volume of voids in the stone and the volume of cement slightly in excess of the voids in the sand.

(3) Determination of the voids in the stone, and, after selecting the proportions of cement to sand by test or judgment, proportioning the mortar to the stone so that the volume of mortar will be slightly in excess of the voids in the stone.

(4) Mixing the sand and stone and providing such a proportion of cement that the paste will slightly more than fill the voids in the mixed aggregate.

(5) Making trial mixtures of dry materials in different proportions to determine the mixture giving the smallest percentage of voids, and then adding an arbitrary percentage of cement, or else one based on the voids in the mixed aggregate.

(6) Mixing the aggregate and cement according to a given mechanical analysis curve.

(7) Making volumetric tests or trial mixtures of concrete with a given percentage of cement and different aggregates, and selecting the mixture producing the smallest volume of concrete, then varying the proportions thus found by inspection of the concrete in the field.

Still further variety in methods is produced by different handling of the stone and the sand, some engineers measuring the voids in the stone loose, while others compact the stone to a greater or less degree. Other complications are introduced by the different methods of determining voids, whether by pouring water into the stone or sand, pouring the stone or sand into water or weighing and calculating the voids from the specific gravity.

After the proportions have been selected, the questions arise as to whether we shall frame the specifications to require loose or packed measurement of the aggregate, loose or packed or arbitrary measurement of the cement, or weight measurement of all the materials; or shall the specifications state that the concrete shall contain a certain quantity of cement in a cubic yard of concrete? Shall we adopt two aggregates, merely sand and stone, or shall we mix two grades of sand and two grades of stone? These are some of the problems which confront the man who would proportion his concrete for maximum economy.

At the outset we must admit that the nature of the materials used in concrete, the daily and even hourly variation in the quality, sizes and percentage of moisture, prohibit absolute accuracy either in fixing proportions or in practical measurement of materials. Yet different methods of testing for the purpose of fixing proportions in advance may produce, with the same materials, as great variation as between 1:2:4 and 1:3:7½. Surely such possible variations are not to be ignored. Differences in the methods of measuring proportions by the contractor may produce nearly as great variation.

It may be well to review first the causes of the variations in tests for proportions, the sources of errors and the part which good sense and careful judgment must play in the matter. Suppose we consider what may be termed the ordinary method, which is most commonly given in print and employed quite widely in practice—the method of first determining, separately, the voids in the stone and the voids in the sand, and then proportioning the volume of the sand equivalent to the voids in the stone and the volume of cement slightly in excess of the voids in the sand. The chief variation in the stone, if it does not contain sand or dust, is due to the degree of compacting. Some adopt loose measurement and others packed, while many use slightly shaken measurement. One man may measure broken stone *loose* and find 50 per cent. voids, while another may take the same broken stone and, compacting it, obtain 40 per cent. voids. The proportion of sand in the two cases, if selected strictly by the test, will vary accordingly. The size of the measure also affects the voids.

The voids in stone above three-eighths of an inch may be correctly determined either by pouring in water, or by weighing and calculating from the specific gravity. In either case, if a porous stone, correction should be made for water absorbed in the pores. Most rock in this vicinity is so dense that this absorption may be neglected. If the stone contains dust, even a small proportion, the air is held in the pores and inaccurate results are reached. Accordingly, for fine material, it is more accurate, in fact necessary, to adopt the weight and specific-gravity method. This is also the simplest method with sand, as the specific gravity of sand averages about 2.65. In the vicinity of Boston I have found it slightly higher than this, ranging near 2.7, probably owing to the pieces of trap and other heavy rock contained in it. Either figure is sufficiently accurate to use for void determinations, provided one desires to test the voids. The moisture in the sand must be corrected for by drying a sample and determining the percentage of moisture.

It is thus comparatively easy to find the voids, both water and air voids, in a certain sample of sand, but when we come to figure from these voids the proportion of cement to select, we meet with a greater difficulty than in the relation of the stone to the sand. How shall we select the sample of sand? Shall it be dry or moist, loose or shaken, measured in a small measure or in a large one? Every one of these variations will give a different ratio of cement to sand. Examples of actual tests in my laboratory show that in ordinary bank sand with natural moisture there may be a difference as great as from 53 per cent. voids when the sand is measured loose to 42 per cent. after shaking.

The effect of moisture on Cowe Bay sand came to my notice in a practical way in connection with tests at Jerome Park Reservoir last winter. In order to make an entry upon one of the tables, although not for direct use in the experiments, as we considered that a knowledge of the voids in sand was of little value, a sample of sand which had been dried in the laboratory was weighed. Its weight was found to be 103 pounds per cubic foot, corresponding to 38 per cent. voids. The same sand was then placed out of doors during a rain, and after lying in the sun for two days following was retested and found to weigh 83 pounds per cubic foot, corresponding to 52 per cent. voids. By the theoretical method of proportioning, in one case the proper mortar would be about 1:3 and in the other case about 1:2, and yet the sand was the same and, therefore, the 1:3 mortar would have been only about two-thirds as strong as the 1:2.

[1] A paper by Mr. Sanford E. Thompson, M.B.S.C.E., read before that Society and published in the "Journal of the Association of Engineering Societies."

[2] The term "density" I use in its now generally accepted meaning, as the ratio of solid particles in a unit volume of concrete. It is thus the complement of the voids. For example, if a piece of concrete has 15 per cent. voids (including the air and the water), 85 per cent. of its volume must be solid material, and its density is 0.85.

I made the statement a few minutes ago that different methods of testing might result, with the same materials, in proportions as widely different as 1:2:4 and 1:3:7½. The case cited shows this difference in the mortar. The difference in the ratio of sand to stone (*i.e.*, 2:4 in one case and 3:7½ in the other) may be reached on the one hand by measuring the stone loose and finding 50 per cent. voids, and on the other by compacting it before measuring the voids and finding 40 per cent. voids.

Perhaps I have dwelt too long upon the inaccuracies of proportioning, but it seems to me that this is a matter of the greatest importance to us in order that we may avoid such inaccuracies, or, at least, exercise very careful judgment in drawing conclusions from them. For example, in the case just mentioned, which is correct, the 1:2:4 or the 1:3:7½? In other words, shall we measure the stone loose or compacted, and shall we measure the sand dry or moist? Or shall we throw aside this method of determining proportions and select some other? As I shall suggest presently, personally I do not place much dependence upon the determination of voids in the different dry materials because of the variations I have mentioned. However, some information may be gained from such tests, if the character of the materials is taken into consideration and the methods made to apply to them. For certain materials, for example, the stone may be compacted before measuring the voids and the proportion of sand thus formed, measured loose, will be sufficient to fill the voids when making the concrete. This is the case when the stone is coarse and of fairly uniform size, such as 1½-inch macadam stone, and contains no small stone. The voids are then large, and particles of ordinary sand will fit into them. On the other hand, if the stone is crusher-run, even with the dust screened out, and the sand contains a large proportion of coarse grains, many of these grains will be too large to fit into the smaller voids of the stone, and, therefore, will increase the bulk. Consequently, a larger quantity of the smaller grains must be had, and to do this the total quantity of sand must be more than enough to fill the voids in the compacted stone. This question of the relative sizes of the grains, which I think was first brought to notice by Mr. William B. Fuller, is frequently neglected in fixing proportions.

This principle is well illustrated in the use of gravel and sand screened from it and remixed. Ordinarily screened gravel, measured loose, has about 40 per cent. voids, so that one would naturally expect a mixture of, say, 1:2:5 to work satisfactorily. If the gravel is compacted so that its voids are 32 per cent., the theoretical mixture would be 1:2:6. However, in practice, the grains of the gravel and sand overlap each other; that is, the smallest grains of gravel are smaller than the coarsest grains of sand, and the voids in the gravel are consequently too small for the large sand grains to enter, so that it is sometimes necessary to use half as much sand as gravel in order to prevent large voids in the concrete.

Experiments by Mr. Rafter, which are of very great value and have been widely quoted, show a surprisingly small proportion of sand. He used 35 per cent. mortar and 40 per cent. mortar both in test and in practice; *i.e.*, the volume of mortar was 33 per cent. and 40 per cent. of the volume of stone slightly shaken. Now, even the larger per cent., 40 per cent. mortar, corresponds to proportions with as little sand as 1:2:6, which probably none of us could use with our New England sand and make good concrete. Our materials would require a 1:2:5 or 1:2½:5 mix. However, if we examine the analysis of Mr. Rafter's sand, we find that 92 per cent. of it passed a No. 30 sieve (30 meshes per linear inch). The grains were thus small enough to enter the voids of the stone without appreciably increasing the bulk; in fact, in many of Mr. Rafter's tests the volume of the concrete was considerably less than the broken stone slightly shaken. His sand, although apparently so fine, was not of bad quality for concrete work, because there was very little dust in it, and therefore the cement entered the sand voids.

We are coming now to one of the principal points which I wish to make in considering this subject of proportioning. The cases cited show that the experimental void determinations cannot be expected to give practical results, but various allowances must be made. Now, why not, instead of making tests one way or another, guessing at the best way to handle the materials and then altering the proportions by judgment, why not, in the first place, or, at least, after rough determinations to serve as a basis, make up trial mixtures of the materials with the stone and sand and cement and water, and determine, from the appearance of this mixture and the quantity of concrete made from it, and, to go a step further, from the density, or, in other words, the percentage of air and water voids which it contains, whether the proportions are correct? If only two materials are available, the proportions of sand to stone may be determined, after selecting the percentage of cement, by mixing the materials in several proportions and selecting the one giving the smallest volume with a given weight of aggregate (corrected, if necessary, for difference in specific gravities); also, judging by the appearance of the mixture, taking care on the one hand that there is sufficient mortar to fill the voids in the stone—that is, that there is a slight excess on top when lightly rammed—and, on the other hand, that this excess is not too great. The appearance of the concrete also should not be coarse, but there should be enough cement and fine particles of sand or dust to fill the pores and make a fairly smooth mortar.

In the field this method of inspection is also applicable. In laying the reservoir bottom at Jerome Park, New York City, for example, there was more or less variation in the broken stone and screenings from day to day, and the inspectors were given authority to slightly vary the relative proportions of these two materials, always keeping the proportion of cement to total aggregate at 1:7, so as to give a mix which worked just right in place.

I will not go farther into the methods of making these tests, because I do not wish to take too much of your time, but shall be very glad to answer questions in regard to them. Materials cannot be satisfactorily mixed dry by trial with ordinary apparatus and thus proportioned, because there is so great separation of the coarse and fine particles. Then, too, the addition of the water changes the relations, since a fine sand requires more water to produce the same consistency than a coarse sand, and consequently makes a larger bulk of mortar. Therefore, for the trial mixtures all of the ingredients must be used, including the cement and the water, as well as the aggregates.

The methods are very useful not only for determining the proportions of two materials, but for comparing the value of different aggregates, and also selecting proportions where the aggregate is separated into three or more parts. I have just completed a series of tests for a client in which we found that by changing and grading the sizes of the particles, we could obtain a strength two and a half times as great with the same proportions of cement, while, on the other hand, we could maintain equal strength with 40 per cent. less cement. In connection with such combinations, the use of mechanical analysis diagrams and curves very greatly facilitates matters, and in many cases the correct proportions can be directly predicated in advance if the mechanical analysis curves for the different materials are plotted from the sieve tests and combined. Mechanical analysis methods are eminently scientific and should be destined to greatly increased use both alone and as an auxiliary to other methods of testing.

From these somewhat general observations and from the results of tests which cannot be presented this evening, we may offer the following suggestions as guides to proportioning:

(1) The size of the largest stone in the aggregate should be as great as is consistent with proper placing of the concrete.

(2) If size of stone is small, a richer mixture must be used; thus 1:3:6 is a fairly rich mix with 2-inch stone, but a lean mix with ½-inch stone.

(3) If sand is fine, a smaller quantity may be used in proportion to the stone.

(4) For concrete a sand with too large a percentage of very coarse grains may be detrimental, because they will not fit into the voids of the coarse aggregate.

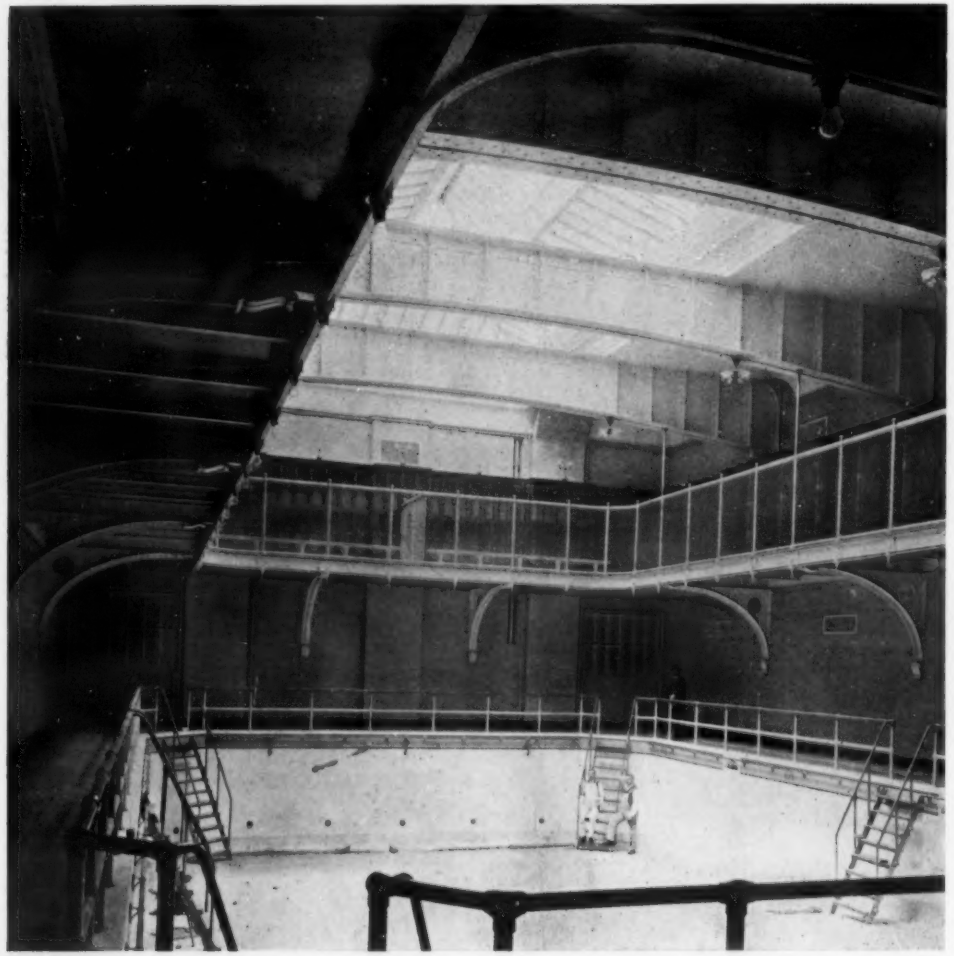
(5) If the broken stone or gravel contains fine stuff, a smaller proportion of sand must be used.

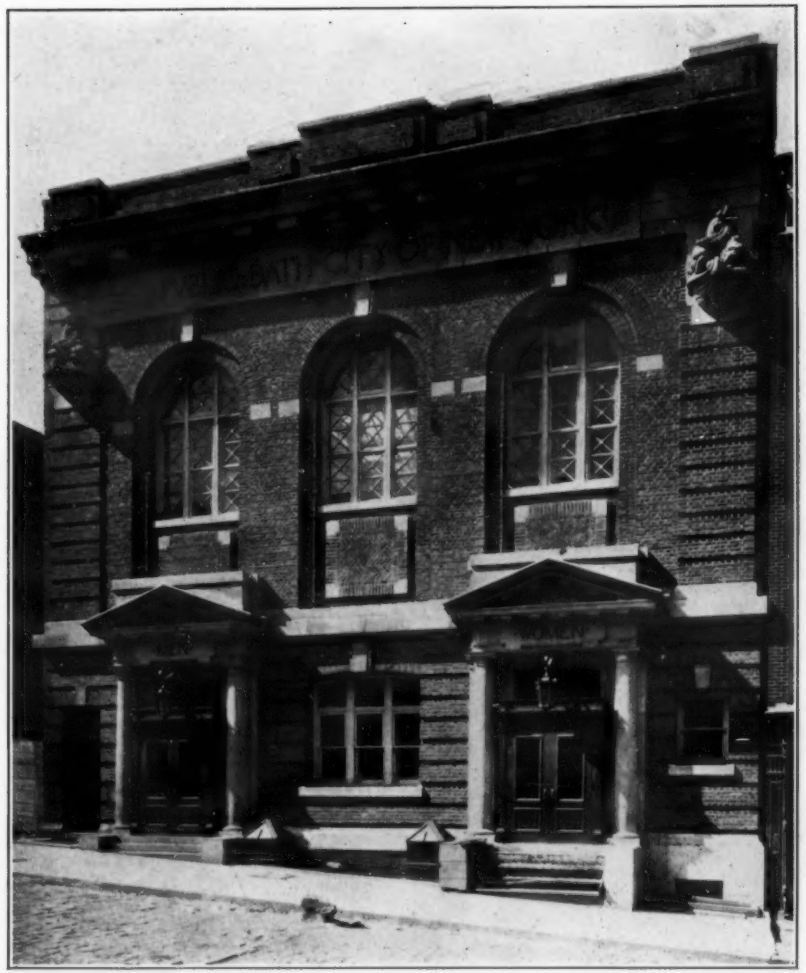
(6) Better proportions are obtained in practice by screening the sand or dust from the coarse material and remixing in required proportions than by using the run of the bank or the run of the crusher.

(7) If the mortar in concrete is rich, say, up to 1:2½, sand should be coarse, with comparatively few fine grains. A lean mortar, on the other hand, is improved not only in strength, but in smoothness of working, by using a sand containing dirt or dust.

(8) If fine sand must be used, the proportions must be richer than for coarse sand, because a fine sand makes a mortar of lower density.

A very important point still in question is with reference to the use of fine sand for water-tight work. A few permeability tests which I have made recently indicate that a slight excess of fine grains in the sand is often beneficial for concrete designed for





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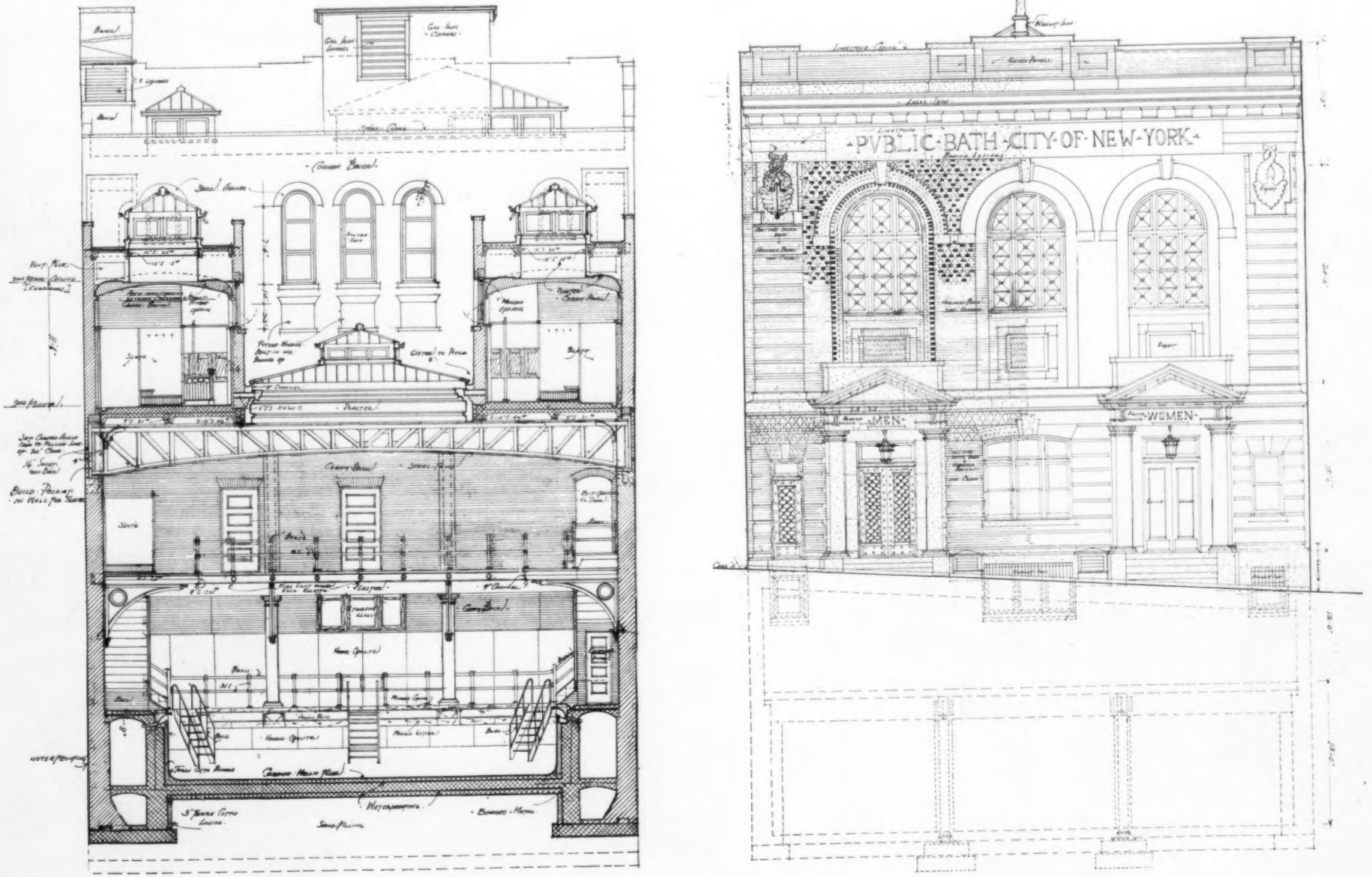

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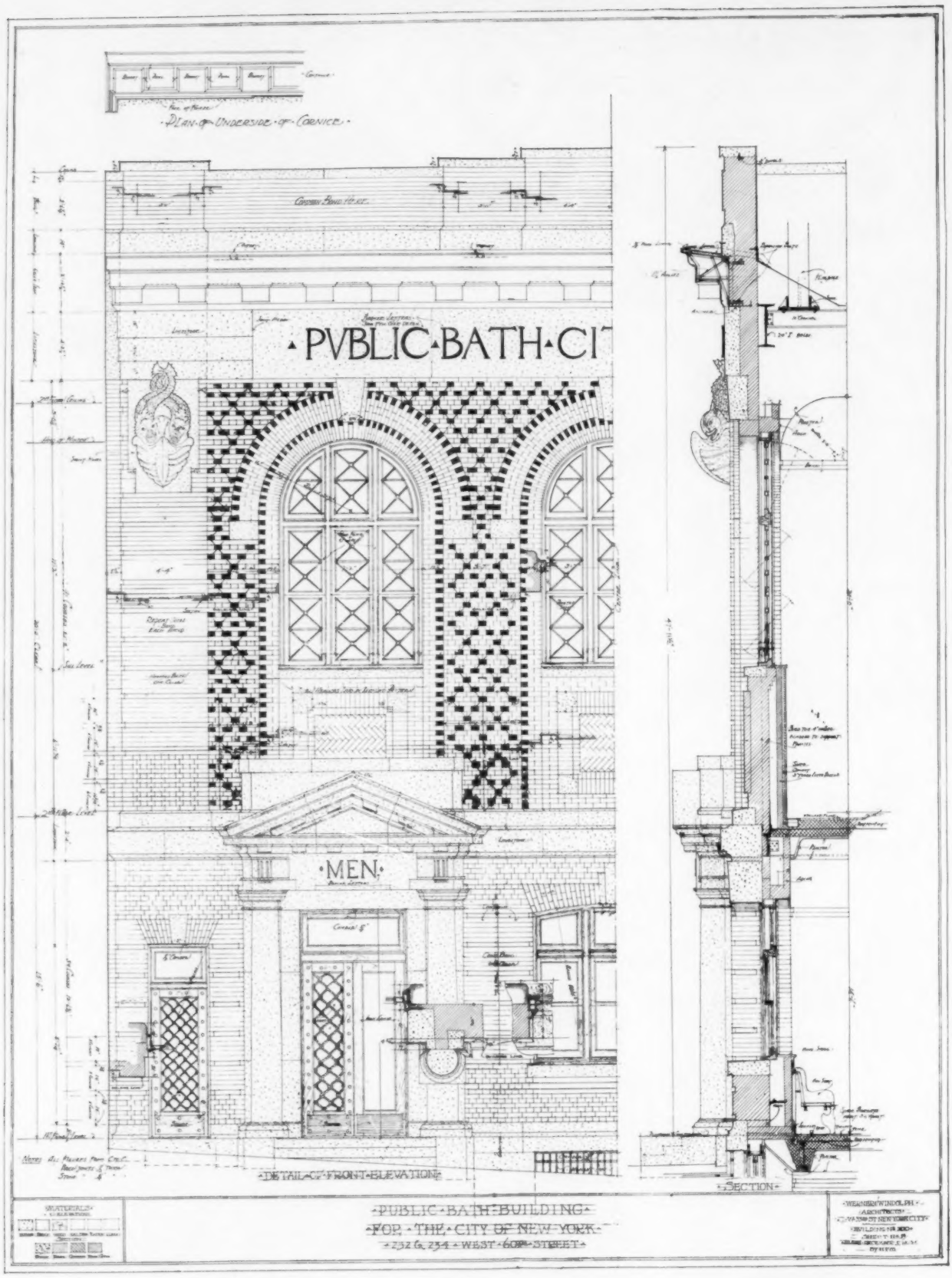

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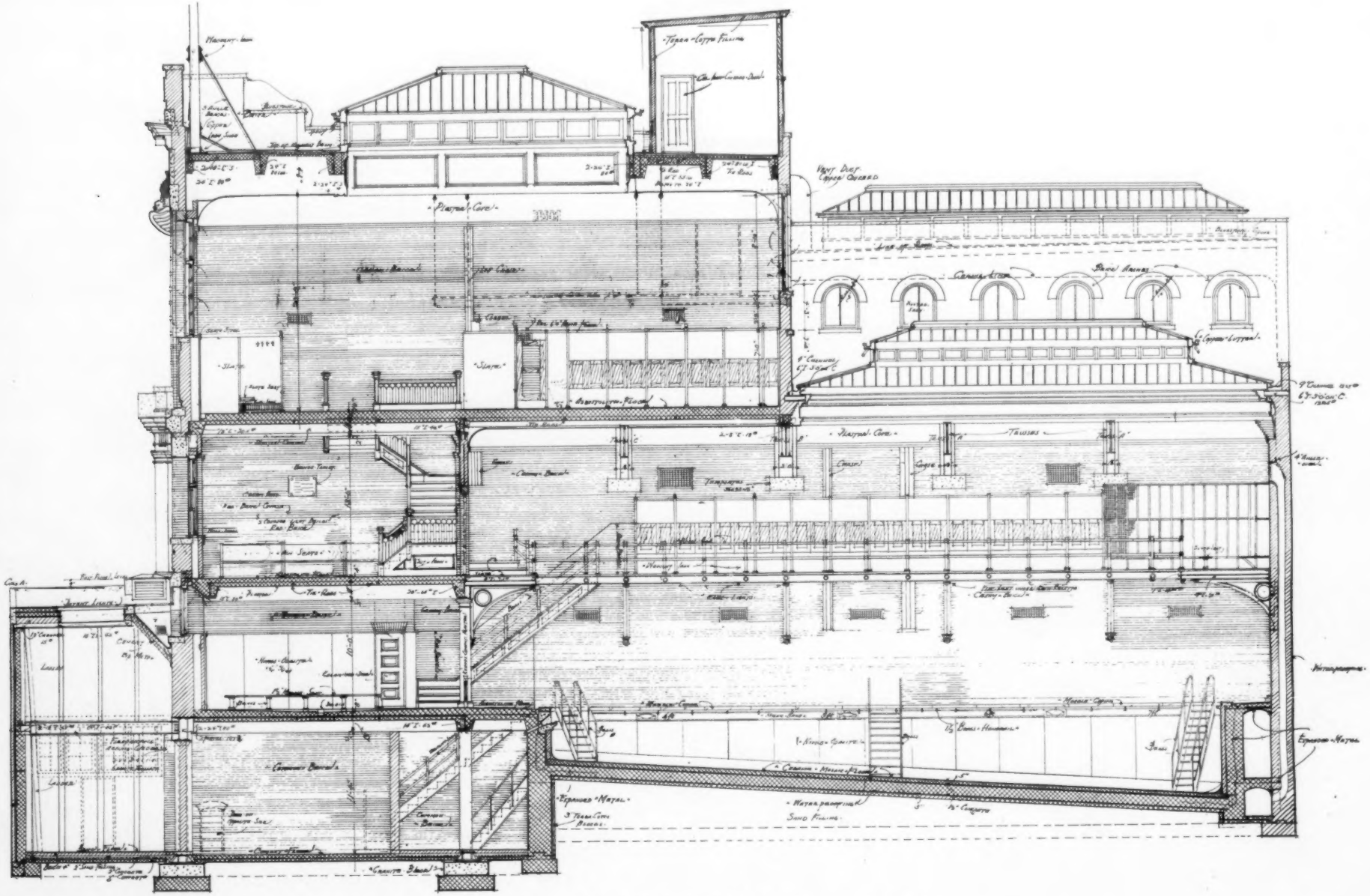

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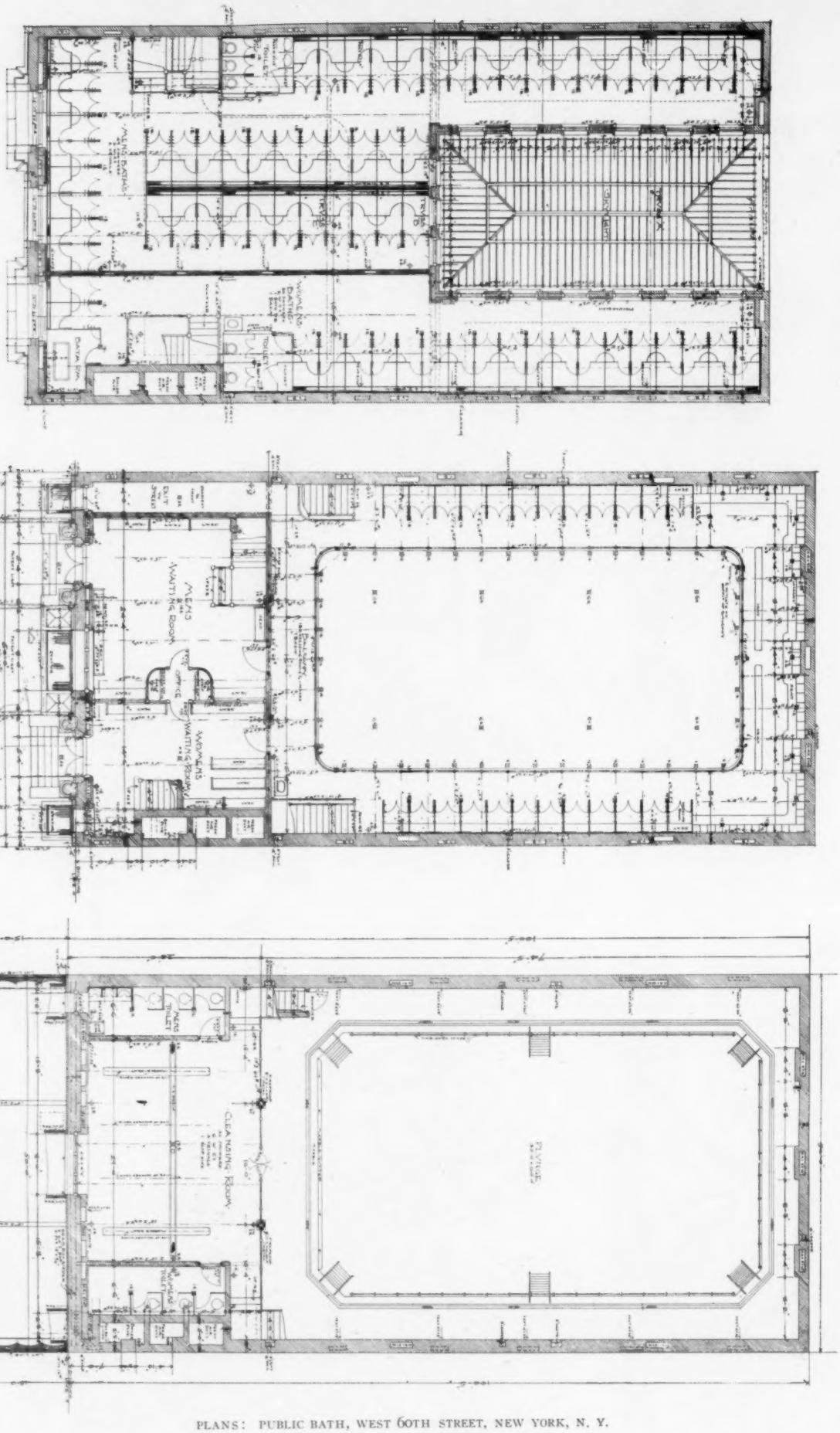

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ENTRANCE HALL: HOUSE OF M. NEWBORG, ESQ., 50 EAST 52D STREET, NEW YORK, N. Y.

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HOUSE OF MRS. H. P. KING, PRIDE'S CROSSING, MASS.

John Lavalle, Architect.

ENTRANCE: HOUSE OF MRS. H. P. KING, PRIDE'S CROSSING, MASS.

John Lavalle, Architect.

water-tight work. For example, I greatly increased the water-tightness of a 1:3:6 concrete made with ordinary coarse bank sand of a quality to produce a strong mortar by substituting for one-sixth part of the sand an equal weight of very fine bank sand. This fine sand decreased both density and strength and yet increased the water-tightness. A further increase in fine sand did not appreciably affect the water-tightness at an early age, but on longer time tests the specimen with the small addition of fine sand was much superior to those with a larger quantity of fine grains. In a 1:2:4 concrete made with coarse bank sand, an addition of fine sand did not improve it, evidently because there was a sufficient excess of cement to render more fine sand unnecessary.

REVIVAL OF THE OPEN-AIR THEATER.

AN hour's ride in an express train from Paris, and then a long climb up the side of a hill in a four-horse brake, bring one to the wide, sunny plain of Champlieu, in the heart of Compiègne forest. It is in this plain that the Romans, fifteen centuries ago, established one of their stations, with a theater, a temple and a fine bath-house. The ruins of all three still stand, and the theater, discovered forty-five years ago and put in a certain amount of order, was opened on Sunday, July 8, by the French Minister of Fine Arts, in the presence of some three thousand persons.

Champlieu theater is a deep semi-circular cutting, almost cup-shaped, except that the proscenium, or stage side, is open. The uneven, grassy stage is, at its highest part, some ten or twelve feet above the lowest seats of the auditorium, and it terminates in a high green hedge, behind which are the dressing tents of the actors. There are two openings in this hedge for exits and entrances. The theater faces north, so that the spectators are little incommoded by the sun during the afternoon. Moreover, the first words spoken on the stage show that the acoustics are perfect; not a syllable is lost in the light breeze of an ideal summer's afternoon.

There are few of these antique Roman theaters in France, and Champlieu is not equal in archæological interest to the larger and more famous Orange theater. At first glance on Sunday it was even a little disappointing, since the ancient stone benches were hidden from sight beneath deal planks and crimson cushions. After walking through the circular passage between two walls of solid stone masonry, with their two openings for exits, or *vomissoires*, this extremely modern touch seemed incongruous. Down on the proscenium one or two mossy slabs were lying half-embedded in the sward, and everywhere on the stone walls of the theater grasses and flowers, roses and brambles in full and beautiful bloom were growing in profusion. When, presently, old Bacchus came ambling in, seated astride of an ancient ass, with half a dozen sheep and lambs gamboling around him, he looked delightfully in character with his beautiful background.

After more than fourteen centuries of silence the theater in Compiègne forest rang again with heroic words and appreciative applause. Occasionally, too, there were smothered sobs, for after the humorous satire of "Le Cyclope" came the tragic "Iphigenia," and Mme. Dudlay, of the Comédie Française, clothed a mother's despair in such living, graphic gesture and tones as to wring tears from a good many eyes. For it was Euripides' plays that had been chosen for the occasion, and after laughing at the grim Polyphemus's (M. Albert Lambert) jokes about the cannibal feast, he meant to make from the flesh of Ulysses (M. Silvain), and witnessing the final victory of mind over matter, when that hero poked out the only eye of the Cyclops, the audience was invited to watch the other victory of Greeks over barbarians and the rescue of the fair Iphigenia from the sacrificial knife awaiting her. Ulysses and his four companions in the former merry play looked as if they had stepped from off a Grecian vase, so marvellously well imitated were their dresses. They stalked about as though quite accustomed to turf. But the unevenness of the ground confused the women a little in the second play, and the two who figured as Chorus, in long, white drapery tightly swathed around their figures, hardly ventured to move when once they had descended a few steps toward the front.

There are now fully a dozen open-air theaters in full swing in France. The most successful are those at Orange, Bézier, Champlieu, the Theatre de la Verdure, in the Bois de Boulogne; Nimes, Bussang, Cauterets and Champigny. Not only Greek tragedies, but operas of Gluck and comedies of Molière or of Meilhac and of Libiche are produced in these rustic arenas, and at the Theatre de la Verdure, near the Pré Catalan, a few nights ago a remarkable series of dances was given in the presence of King Sisowath of Cambodia and of Mr .and Mrs. Longworth. The trees and shrubbery on these occasions are illuminated by changing tones of light from elaborate electric lamps, and the effect is something fairylike. This midsummer development of the French stage assumes larger proportions each season, and this year is more popular than ever before.—*Paris correspondence of the N. Y. Tribune.*

EARLY ILLUMINATING OILS.

AS I listened to these various remarks, said Professor C. F. Chandler at a recent meeting of the Illuminating Engineering Society, my mind went back to a time when no one knew anything about electric lighting and gas was a new thing. Sperm oil sold for $1.75 a gallon by the cargo, and $2.25 at retail fifty or sixty years ago, and at that time the cost of artificial illuminants was one of the most serious items in domestic expenses. I remember in my early boyhood when they began to build the gas works at the foot of the street in New Bedford on which I lived. There were gas works in existence at that time, but they were confined to a few of the large cities. I spent much time in watching the operations as they dug the hole for the gas tank, built the benches, set the retorts and started the works; and when my father actually put pipes into the house and had burners put on, the light seemed most marvelous. In my boyhood we had nothing but oil lamps. I have in my museum in Columbia an old brass lamp with a little crooked handle on it, which my grandmother used. She would hold the little lamp between her eyes and the book she was reading to me, and that was artificial illumination in those days. Then there was an improvement. Some one conceived the idea of substituting camphene, refined spirits of turpentine, and that was introduced as a substitute for sperm oil. It was very inflammable and evolved a combustible vapor, and we had numbers of explosions from it; but it gave such a brilliant light and was so cheap, that people burned it and took the chance of the explosion and the terrible accidents which occurred, for the sake of getting something that was within their means. I do not remember the price, but it did not cost more than one-third as much as sperm oil. The difficulty was that it could only be used with a chimney. The turpentine is so rich in carbon that it gives a smoky flame, and it was necessary therefore to burn the camphene in a lamp with a chimney. But an ingenious chemist produced a satisfactory oil for portable lamps without chimneys by combining camphene, too high in carbon, with alcohol, poor in carbon, producing the so-called "burning fluid" which was used in high glass lamps, without chimneys, having two plain, unusually long wick tubes. These old "fluid" lamps are now being sought in all the old attics in New England and sold to the ladies, who have kerosene burners put on them and pretty shades and use them to decorate their tea tables. But I am afraid there must be a factory where they make them, as there are so many of them being discovered and sold.

I went to Germany to study chemistry. When I entered a German family, as a boy, in Berlin, there was a glass lamp placed on the table that held a queer looking oil. It had a smell different from sperm oil, and I inquired of my host what it was and he said it was a "Photogen" lamp. I inquired of my professor what this new oil was, and he said it was made from boghead mineral, which came from Scotland, and that parties in Scotland had begun to manufacture it on a large scale. I was so much interested that I immediately sought for information, and secured one or two pamphlets which had been published on the subject of this coal oil, giving an account of how the oil was manufactured from the boghead mineral, which came from Torbano Hill, Scotland. When I came home, in 1856, and told my New Bedford friends, who had their whale- and sperm-oil refineries and candle works, about an oil made out of a mineral dug out of the ground, they shook their heads and said that nothing could ever interfere with the prosperity of the sperm-oil industry. I was interested in the oil and wrote to the *Scientific American* and offered to write an article on the new oil which was burned in Germany, if they would promise to publish it; they wrote back that they did not think any such oil as that would ever interest the American public. In less than three years after that, there was a series of coal oil factories from Portland, Me., down to Wilmington, Del., manufacturing the so-called coal oil or kerosene. It was made out of the boghead mineral which came from Torbane Hill, Scotland; Albertite, which came from Nova Scotia; Grahamite, which came from Ritchie County, W. Va., and Breckinridge coal, which came from Breckinridge County, Ky. As soon as this coal oil made its appearance lamps were invented to burn it, and the

price of the oil dropped down to 50 cents per gallon. The coal oil industry was firmly established and light became much cheaper.

Then a couple of Yankees from New Haven went to Northwestern Pennsylvania, where they saw oil on the surface of the ponds, and some of this oil was skimmed off the ponds and taken to New Haven to Prof. Silliman, who examined it and said it was nothing but crude kerosene oil. They asked him if it was useful, and he said that it certainly was if they could get enough of it. They went back to Oil Creek, in Pennsylvania, but did not dare to make any very definite bargains with the farmers. They prowled about and found places where there was scum on the water and made contracts with the farmers to gather the oil on a royalty. They gathered a few barrels of it and then selected a man, Col. Drake, and put him in charge and organized the first petroleum company in the world, the Pennsylvania Rock Oil Company. Col. G. L. Drake was made the superintendent, and went to Oil Creek to take charge of the collecting of the oil. He learned that in 1819 oil was accidentally obtained in boring two salt wells on the Muskingum River in Ohio, and that in 1829 a flowing well was accidentally obtained at Burkesville, Ky. He became possessed of the idea that he might obtain oil by boring for it, so he erected a derrick and started to bore an oil well. The old farmers came from miles around to watch the boring operation, with a feeling that Drake might with equal reason bore for whiskey. But on the 26th of August, 1859, he "struck oil" at a depth of 71 feet, and obtained 400 gallons, which he sold for 50 cents a gallon. Soon a forest of derricks sprang up, extending into West Virginia and Ohio. Successful wells yielded from 100 to 2,000 barrels of oil daily. The Noble well yielded in a little more than one year 500,000 barrels of oil; the Sherman well in two years 450,000 barrels, and petroleum became one of the most valuable productions of the United States. The yield in 1904 was over 100,000,000 barrels. To-day the price of refined petroleum for use in lamps is 5 cents a gallon in bulk.

A MODERN GEORGIA HOUSE.

"WOODLAWN," the suburban residence of Mr. J. H. Nunnally, is situated on Peachtree Road, near Atlanta, Ga. Originally the site had little to recommend it to the casual, who, as is well known, often come face to face with the picturesque without recognizing it—a fault lying more with their stars than with themselves, perhaps. The ground lay unevenly. From the street it sank suddenly to a veritable gulch, rising some two hundred yards away on the extreme north boundary line to a point level with the street whence ran a ledge some twenty or thirty feet wide to what is now the gateway. It was on this point that Mr. Nunnally elected to build his house, leveling off the ridge as a driveway to the road and leaving the beautiful undulating

HOUSE OF J. H. NUNNALLY, ESQ., ATLANTA, GA.

land to the south undisturbed. The effect is sylvan to a degree, exquisitely natural and therefore exquisitely beautiful. Grading would have destroyed the noble trees that shade this undulating but perfectly kept lawn, and by the same token it would have destroyed the romance (if romance is the word) which the very unusualness of the treatment lends to this perfectly modern colonial house.

Fortunately the high point, which was but a brief moment of earth, was just in the proper place to support one side of the house, the other, to hold its level, had to send piers and arches of stone down some fifteen or twenty feet in search of terra firma. Thus the house has two feet on a hill, so to speak, and two feet in a hollow. From the front door one looks out along the driveway through the iron gateway to the street. From the terrace

THE VERANDA.

which opens out from the library and faces south one looks directly down on a small formal garden and then on over the beautiful lawn that rolls lower and lower to the very gulch itself, from which a precipitant terrace rises to the street above. Here the shadows are deep, and in the fragrant coolness of the trees the mocking-birds sing from early morn to the proverbial dewy eve. Such a chorus of mocking-birds was never heard elsewhere. They nest and brood in the great trees, and when it happens (if ever) that the home-grown chorus is insufficient it is supplemented by youngsters from the wildwoods all around.

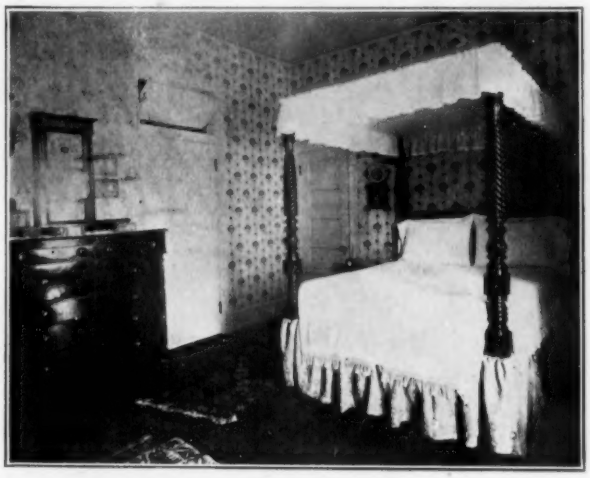
"Woodlawn" has been built and settled just long enough for the English ivy and Virginia creeper to grow. The house was designed by Mr. A. L. Norrman after suggestions supplied by the owners. It is of frame, with the usual clapboards, built on a foundation of gray stone (quarried nearby) and with little enrichment other than that afforded by the colonnade of Corinthian

THE GUEST-CHAMBER.

columns and the turned balustrades. On the north side of the house the colonnade leads past the front door to the porte cochère, the only feature visible from the gateway. On the south side it ends in an open terrace which in turn leads into a screened veranda which in effect is little more than an extension of the dining-room. The screened veranda becomes in the South a kind of open-air parlor, furnished as a room with chairs, swings, tables

and growing plants, for general use when light in the less sheltered out-door spaces is too glaring.

The interior of "Woodlawn" offers no particularly original features, though the house was planned for both comfort and beauty—a duality not always realized. There is first a reception-room, then a library with the usual enrichment of bookcases well filled. This opens into the dining-room. The feature of the hall-



A BEDROOM.

way is an exaggerated brick mantel and fireplace with windows let in the solid masonry on either side. The bedrooms are all comparatively small, with low ceilings, the feature of each being a mantel of red brick laid up in white mortar. On the south side of the house are the family bedrooms, each with its separate bath. To the north are the guest-chambers. The house is furnished throughout with a taste that suggests a catholic interest in the beautiful. Some excellent old mahogany is to be seen. An example of this is given in two fine old beds shown. The four-poster in the guest-chamber was probably the work of some southern cabinet-maker about 1820 or 40—say at Charleston, New Orleans or Richmond. The bed shown in the other chamber is evidently of late English origin.

Back of the Woodlawn residence are the stables, the garage and the greenhouses. The latter stretch off row after row of long low glass buildings filled with roses, carnations and other exotics, all of which are brought to the highest perfection. In the tiny formal garden to the south of the house nature is left pretty much to herself, guided by loving hands. Unfortunately, when the photograph here shown was taken the spring roses had just finished blooming, else a froth and foam of white flowers would have been shown against the background of dark leaves.

C. R. S. Horton.

COMMUNICATIONS

SUBSTANTIAL PERFORMANCE.

New York, August 14, 1906.

To the Editors of the American Architect.

Dear Sirs:—In reading the opinion of the Appellate Division of the Supreme Court, in the case of New York *vs.* Horgan & Slattery, I was struck by a statement made by Mr. Justice Houghton, and adopted by the majority of the Court, of the "proper and salutary rule," that:

"An architect employed to furnish plans and specifications for the erection of a building is entitled to remuneration therefor, if they are made in accordance with the direction of the owner. He cannot recover, however, where the owner stipulates that the plans and specifications shall be for a building not to cost over a specified amount, if the plans and specifications made are for a building substantially exceeding that sum."

I have also been interested in your editorial comment; but I feel, however, that the opinion, as well as your comment, loses sight of a very important point—so important that I trust that in the re-trial of this case it will be brought prominently forward.

It is just that "the architect cannot recover where the owner stipulates that the plans and specifications shall be for a building not to cost over a specified amount, if the plans and specifications made are for a building substantially exceeding that sum," if the owner has not at the same time stipulated, with equal finality, that the building must be of a certain size, of a certain material, and must embody certain definite functions. But I think I may safely say, in at least fifty per cent. of the cases (and the sequel proves that it was so in this case), that the requirements laid down by the owner are such that no building can be properly designed (and the use of the word "properly" must rightly take into consideration all of the elements of safety, adequacy and dignity appropriate to its object) within the sum laid down by the owners. Indeed, every architect is familiar with the fact that it is the usual custom among the officials of the city of New York to make what is practically a guess at the appropriation needed for a building—or, at the best, an estimate based upon an incomplete study of the requirements and conditions—and then to instruct the architect what there must be in the building, for the first time developing all of the multiform requirements, and directs him to prepare plans and specifications in accordance with the said directions, and then to await the receiving of the bids; not with a view of then determining what modifications, if any, shall be made in the plan, but rather how it may then be possible to obtain the necessary additional appropriation.

Corporations and individuals seem often lacking in the simplest of common sense in the consideration of this feature of the architectural problem. There are but two positions which may be taken in connection with any building enterprise: either to build in accordance with certain definite requirements and provide the necessary appropriation therefor, or else to build within the appropriation and to limit the requirements to correspond. This does not mean that there are not architects prone to unnecessary elaboration or extravagance, which produces with the minimum requirements something more than the minimum cost; but it is an axiom that, with fixed requirements, there must always be a fixed minimum cost.

Yours very truly,

Electus D. Litchfield.

[We think that, in his turn, our correspondent "loses sight of an important point." While no man should be blamed for not accomplishing the impossible, he who knowingly and voluntarily undertakes the impossible may fairly be held blameworthy in his failure and deserves to suffer the consequences of his own rashness. Although it seems harsh, we believe the courts are right in holding that it is an integral part of the "professional skill and knowledge" for which the client pays, to be able to predetermine with satisfactory accuracy whether the client's stated conditions are or are not impracticable within the conceded allowable margin of variation. The inevitably aleatory nature of all dealings between architect and client is sufficiently acknowledged and provided for under the doctrine of "substantial performance." All that an architect need do for self-protection in the case where a client propounds impossible or extremely unpromising conditions is to declare, in writing, his belief that the problem cannot be solved as stated; that he is, however, willing to attempt the solution, but that, successful or unsuccessful, he must be paid for his skilled labor on such or such basis. —Eds. American Architect.]

CONCENTRIC BOULEVARDS.

To the Editors of the American Architect.

Dear Sirs:—The catastrophe which has befallen San Francisco will have aroused the sympathy of the whole civilized world, and the loss of so many great buildings will be deplored, whatever may be individual opinion upon the æsthetic merit of the various styles adopted.

I understand from statements in our building journals that a plan for re-alignment and improvements of the city, which Mr. Burnham was instructed to prepare, had been under consideration, and that it introduced the feature of a circuit boulevard around the city, a feature lacking to most, if not all, American cities, and no doubt suggested by those of Paris.

We, citizens of London, are suffering from congested streets, and the recent Royal Commission having failed to make suggestions for this wise arrangement, I have been urging it upon the attention of the professional institutes and brother professionals in regard to our case. The expense of acquiring necessary property of course runs into many millions, and we move slowly in the old country; but you have now, in ruined San Francisco, an opportunity of arranging these circular routes with radial avenues

intersecting, and then square blocks in the sectors so formed. I should like to be permitted to suggest that more than one circuit route is most desirable, and that several concentric boulevards would prevent the spread of fire, cause improved hygienic conditions by circulation of ozone, and that the conformation of the ground seems particularly to lend itself to an arrangement conducive to convenience and beauty. Trusting I may be excused for intruding with my views, I am

Yours cordially,

E. W. Hudson, A. R. I. B. A.

76 Fellows Road, London, N. W.

ILLUSTRATIONS

BRANCH PUBLIC BATH, WEST SIXTIETH STREET, NEW YORK, N. Y. MESSRS. WERNER & WINDOLPH, ARCHITECTS, NEW YORK, N. Y.

FRONT ELEVATION AND CROSS SECTION OF THE SAME.

LONGITUDINAL SECTION OF THE SAME.

PLANS OF THE SAME.

DETAILS OF THE SAME.

HOUSE OF MRS. H. P. KING, PRIDE'S CROSSING, MASS. MR. JOHN LAVALLE, ARCHITECT, BOSTON, MASS.

ENTRANCE TO THE SAME.

ENTRANCE HALL: HOUSE OF M. NEWBORG, ESQ., 52 EAST FIFTIETH STREET, NEW YORK, N. Y. MR. J. F. FREEDLANDER, ARCHITECT, NEW YORK, N. Y.

Additional Illustrations in the International Edition.

CHURCH AT EDAM, HOLLAND.

FISH MARKET, LEYDEN, HOLLAND.

NOTES AND CLIPPINGS

Alight for One Hundred Years.—On the premises of a brick-making firm situat on the Surrey Canal, North Camberwell, the kiln fire has never been permitted to go out since it was first set alight 100 years ago. During all that time it has been subject to the heaviest rainfalls. It consists of only a few feet deep of lime and coke, which has been constantly renewed.—*London Chronicle.*

Where Time has stood still. — One of the most interesting edifices within half an hour's ride of London figured in a case heard in a consistory court held at St. Paul's this week. This is Perivale Church, a tiny fourteenth century building, with a wooden tower, standing on a picturesque wooded knoll close to the Brent, near Ealing. Perivale is the smallest parish in the diocese of London, having but five houses and some forty inhabitants. Apparently the population has remained stationary since the Conquest, for the Domesday survey returns it as consisting of two land-holders, two cottagers, a slave, and their respective families.—*British Architect.*

Casts of Equestrian Statues.—Full-size casts of the statues of Bartolommeo Colleoni and Gattamelata, the two greatest equestrian monuments of the Renaissance, are being mounted in the large hall of casts. The Colleoni is already in place, and the Gattamelata will soon follow. They are to stand on opposite sides of the hall, in such a position with relation to each other that they may be easily compared, and at a considerable elevation, the height of the pedestals being 10 feet 6 inches. The pedestals of the original statues are so high, and so obviously intended for outdoor effect, with large space about them, that it would be impracticable to attempt to reproduce them here, and therefore simple pedestals of Renaissance style are being provided. Both casts are included in the John Taylor Johnston Memorial Collection, the Gattamelata having been received in 1893, and the Colleoni this year.—*Bulletin of the Metropolitan Museum of Art.*

The Expiatory Church of the Resurrection, St. Petersburg.—On the spot in St. Petersburg where Czar Alexander II. of Russia was assassinated in 1881, there is being built a remarkable church called the "Church of the Resurrection." It is constructed of chocolate-colored brick, trimmed with white marble, and is crowned with seven towers, covered with vari-colored mosaics. In these mosaics are represented scenes from the life of Christ, and there are a number of panels containing the coats of arms of the fifty Russian provinces and of the Romanoff family, with effigies of the apostles and the saints. In splendor and design this mosaic-work is declared to be unsurpassed. During the last twenty years the church has been in process of construction, and it will not be completed for twelve years more. While modern materials are used, the architecture is of the orthodox ecclesiastical style of the Middle Ages. Public contributions are paying for the work, the total amount collected aggregating nearly $6,000,000 from all parts of the empire.—*Boston Transcript.*

The Architect and the Decorators of the Sorbonne.—"At the time when the Sorbonne was building," said M. Nénot at the late Congress of Architects, while reading his paper on the control architects should have over artists associated in their work, "a great fresco of twenty-six metres had been decided upon for the great amphitheatre, to decorate the part at the bottom which supports the cupola. The success depended on the tone of this fresco. Puvis de Chavannes seemed to be the right man. With him the white stone wall, almost entirely covered over, would continue to bear its cupola. But my friend, Benjamin-Constant, appointed for another decoration in the same monument, wished to be appointed to carry out this fresco, and the President of the Republic, M. Grévy, informed the Director of the Fine Arts, M. Kempfen, that he wished very much that he should be given the work. The position of the architect was painful. To resist the head of the State was a difficult matter, but, on the other hand, with the powerful palette of Benjamin-Constant the semi-cupola would no longer be supported, and the general harmony would be destroyed. I declared that if I was forced to accept Benjamin-Constant I should give up the fresco and substitute an architectural motive for it. Then I was allowed to have Puvis de Chavannes.

"This should always be the case; instead of the architect having a certain artist forced on him, he should be given a great freedom in the choice of his collaborators, and he himself must point out the artists and follow their work, without any other preoccupation than the general harmony of his work; and he should leave to the painters and sculptors, who are responsible for their work, every liberty of form or of color, provided they do not prejudice that general harmony without which no architectural work can really exist."

Fontevrault and the Royal Tombs.—The tombs at Fontevrault of our first two Plantagenet Kings remind us of the time when a Count of Anjou inherited England and Normandy from his mother, together with Anjou, Touraine, and Maine from his father, and was, in right of his wife, lord of Guienne, Auvergne, and other fair provinces in western and southwestern France. The project is revived of transporting to this country the monuments of Henry II. and his consort Eleanor, Countess of Poitou and Aquitaine, of Richard I., and of Isabella of Angoulême, second wife of King John. The Revolutionists rifled the graves of the Angevin princes in the abbey-church burial-ground; the mutilated effigies were subsequently removed into the south transept, and by the care some years ago of M. Félix Bodin, the historian, were protected from further injury. The four recumbent and crowned figures are considered to be portraits, and retain traces of coloring. Henry II. and Richard I. wear royal robes, without armor, as in the case of the effigies of King John and Henry III. at Worcester and Westminster; the figure of Cœur-de-Lion is of heroic size. Several members of the house of Anjou were buried within the precincts of the Abbey, which the Breton peasant and crusader, Robert d'Arbrissel, founded in 1099 as an oratory in the valley of the Fons Ebraldi, near Montsoreau, on the borders of Touraine and Anjou. The abbess presided over a community of nuns and monks, who in 1459 exchanged their Benedictine rule for that of Augustine. The post of superior was always conferred upon one of the blood-royal; the last abbess, Mme. Pardaillan d'Antin, a niece of Mme. de Montespan, enjoyed in 1789 an income of 100,000 livres. Despite certain scandals Fontevrault became one of the richest and most important religious houses in France, and had numerous branch convents. Of its five churches the greatest yet remains, having been built, or rather begun, in 1125 by Foulques, fifth Count of Anjou. The church has an eastern apse with apsidal chapels, and presents an example of spherical vaulting. The nave has been partitioned off and converted into a dormitory, on two floors, of the Maison Centrale de Détention for some 2,000 prisoners. In the second court of the abbey is the curious XIIth century Tour d'Evrault, of which the middle stage is square and the lower and upper stages are octagonal on plan.—*The Builder.*

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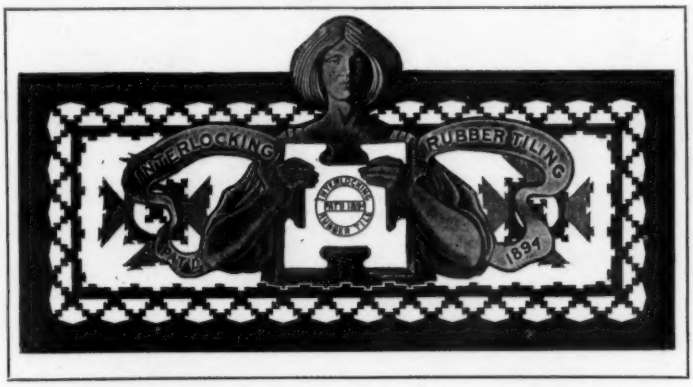

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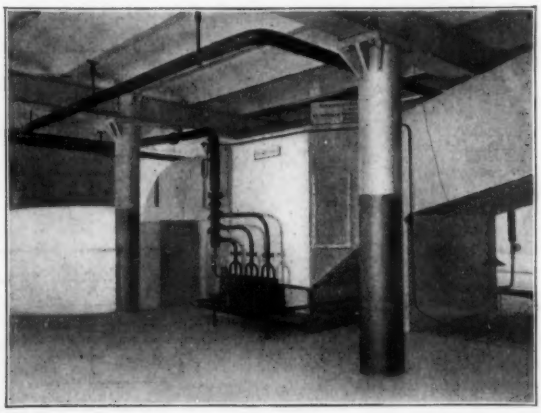

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MALDEN, MASS.—Bids for erecting the new Malden high school will be advertised for soon. The new building will cost about $200,000. Plans and specifications may be seen at the office of the inspector of buildings, F. G. Conner, in the Malden City Hall. Cooper & Bailey, of 60 Congress Street, Boston, are architects.

MARION, O.—The trustees of the Carnegie library have instructed Richards, McCarty & Bulford, architects, Ruggerly Building, Columbus, to proceed with the working plans for the library. It is to cost $30,000.

MARTINSBURG, W. VA.—The Board of Education is reported to be considering the erection of a $50,000 high school and ward building for the First Ward.

MASON CITY, IOWA.—Mrs. Sarah Fox, of Muscatine, Iowa, will donate $50,000 for the erection of a dormitory at Memorial University. It will be of stone, three-story, with rooms for 200 women.

MEMPHIS, TENN.—Proposals will be received until September 10 for the construction of the $1,000,000 court house for Shelby County. Hale & Rogers, architects, 11 East Twenty-fourth Street, New York City, or 1615 Ashland Block, Chicago, Ill. Levi Joy, secretary of Shelby County Court House Commissioners.

Chiglizola, Hanker & Cairns, Scimitar Building, are reported to be preparing plans for the ten-story annex to the Peabody Hotel. The cost of the new structure will be $350,000, and $40,000 will be spent in improvements on the main building.

MILLEN, GA.—Jenkins County will vote August 22 on a $900,000 bond issue for building court house, jail and bridges. Address County Clerk.

MILLVILLE, MINN.—A. C. Woodcock, of Plainview, Minn., has the contract to erect a cement block building for Charles Schleicher.

MINNEAPOLIS, MINN.—Plans have been filed for a 4-story brick and tile fireproof college building, to be erected on the State University campus, at a cost of $60,000; owner, State of Minnesota.

Mr. William B. Kenyon, architect, has moved into his new offices, 522 to 528 Guaranty Building.

Bertrand & Chamberlain, architects, 617 Bank of Commerce, are preparing plans for a six-story pressed brick and cut stone warehouse for the Central Supply Company, to be built on Third Street. It will be of fireproof construction and cost about $50,000.

Plans have been filed for a five-story reinforced fireproof warehouse, to be erected at 15 South Sixth Street, for George R. Lyman; cost, $54,000, and for a reinforced fireproof factory, to be erected at 251 North Leyndale Avenue, for the Northwestern Knitting Works; cost $63,000.

The Skylight Club will erect a clubhouse at 720-722 Fourth Avenue, at a cost of $50,000.

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MINOT, N. D.—The Stone-Ordean Wells Co., of Duluth, will erect a wholesale warehouse here to cost $40,000.

MOOSE JAW, SASK.—Reported that the C. P. R. will erect a $150,000 hotel here.

MUSCATINE, IOWA.—Congress has appropriated $75,000 for a new public building to be used as a post office.

D. M. Fuhs, architect, Davenport, Iowa, has plans for a bank building to be erected here. It will be of pressed brick with Bedford stone trimmings, three-story, 40x140. First National Bank, owner.

NEWTON, MASS.—Mayor Warren has invited the following architects to submit plans for the new school houses to be erected this fall: Geo. F. Newton, MacFarland, Colby & MacFarland, Brainerd & Leeds, and Frost, Briggs & Chamberlain, the latter firm being of Worcester. For the Hyde school, the architects are Hartwell, Richardson & Driver, Samuel J. Brown, Coolidge & Carlson and W. C. Brocklesby, the last being of Hartford, Conn.

Francis H. Kimball, 71 Broadway, is reported to have completed plans for a 25-story building to be erected at 37 Wall Street for the Trust Company of America.

The Caborne apartment house is to have an annex in Fifty-seventh Street. It will be 25x80 feet, 11 stories in front and 15 in the rear. The improvements are to be made for Mrs. R. G. Freeman and others. Cost, $125,000.

NEWARK, N. J.—The Board of Education has taken out a permit for the construction of the new Burnet Street school to cost $100,000. Frank Ward is architect.

NEW BEDFORD, MASS.—The joint special committee appointed by the New Bedford City Council to secure plans, specifications, etc., for a new building to be used for high school purposes, the same to be located on County Street, have invited architects to compete. Plans must be submitted to the committee not later than 4 P.M., September 25, and addressed to Room 8, Library Building, New Bedford, Mass. The particulars as to the requirements and terms of the competition may be obtained from the clerk of the committee.

NEW CASTLE, PA.—It is reported that Lodge No. 69, B. P. O. E., has purchased a site at Park and West Washington Streets for the erection of a temple, to cost $50,000.

NEW YORK, N. Y.—Henry G. Harris, 3 East Seventeenth Street, is preparing plans for three 6-story flats, 50x86.11 feet, for Rosenberg & Perelson, 124 Bowery, on the north side of 144th Street, 100 feet west of Seventh Avenue, to cost $170,000.

Messrs. Schwartz & Gross, 35 West 21st Street, have completed plans for a 5-story loft building, 60x100 feet, for the J. W. Beekman estate, 5 East 42d Street, to be erected at Nos. 417-421 Madison Avenue. Figures are now being received.

Architect William H. Birkmire, 396 Broadway, has prepared plans for an 11-story mercantile building, 100x85 feet, to be erected at Nos. 27-35 West 24th Street, for Andrew J. Kerwin. Cost, $500,000.

The Five Hundred and Forty Park Avenue Company, 52 William Street, has purchased a plot at the northwest corner of Park Avenue and 61st Street, 57x100.5 feet, on which a high-class apartment house for sixteen families will be erected. The exterior will be in light brick, limestone and terra cotta. The interior will contain electric lights, steam heat, marble, tile, mosaic and hardwood finish. William A. Boring, 32 Broadway, is now preparing the plans. The project, he estimates, will cost about $350,000.

It is reported that the Matheson Company will erect an automobile garage of reinforced concrete at 1620 Broadway, New York. The building will be 5 stories.

The Ellis Island Immigration Station, Ellis Island, is to receive extensive improvements in the near future. It is proposed to consolidate the space devoted to dining-rooms near the kitchen and to build additional sleeping rooms. In addition to remodeling the present structure, a new building will be erected. The improvement is estimated to cost about $150,000. James Knox Taylor, Supervising Architect, at Washington, D. C., is preparing the plans. No building contracts have yet been made.

It is reported that plans have been drawn by Architects Rowland & Eurich, 1133 Broadway, for the erection of a $100,000 9-story warehouse for J. M. Stewart, 438 to 442 West Fifty-first Street, to be 60x95 feet.

Plans are ready, by Maynicke & Franke, 298 Fifth Avenue, for the 6-story store and office building, 100.5x208 feet, which the Hoffman estate, Broadway and Warren

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Street, will build at 736-744 Sixth Avenue, at a cost of $350,000. The Improved Property Holding Company, of which Henry Corn, 320 Fifth Avenue, is president, are the lessees. No building contracts have yet been awarded.

Neville & Bagge, 217 West 125th Street, it is stated, are making plans for a 6-story 19-family flat, 50x86.11 feet, for Harry Schiff, 13 West 112th Street, on the south side of 111th Street, 135 feet east of Riverside Drive, to cost $80,000.

Knight & Collins, 24 East Twenty-third Street, have prepared plans for a loft building, 11 stories, 56x93 feet, for the American Felt Company, 110 East Thirteenth Street, to be erected at 114-116 East Thirteenth Street, to cost $210,000.

Neville & Bagge, 217 West 125th Street, it is reported, are now taking figures on a brick, stone and steel, partially fireproof church and rectory for St. Paul's Roman Catholic Church, to be erected on the north side of 117th Street, 115 feet east of Park Avenue. The Rev. John McQuirk, 154 East 117th Street, is pastor.

New Orleans, La.—Plans and specifications have been completed for clubhouse to be erected by the St. Bernard Athletic Club. Judge N. H. Nunez is chairman of building committee.

Norfolk, Va.—Louis E. Jallade, architect, 178 Fifth Avenue, New York, N. Y., is preparing plans for a Naval Y. M. C. A. Building to be erected here. Cost estimated at $300,000.

North Adams, Mass.—It is said a new post office is to be built at this place in the near future.

Norwalk, O.—Extensive improvements are planned for the county court-house. Vernon Redding, architect, Mansfield, O., is preparing the plans.

Oakland, Md.—Garrett county will vote, November 6, on the issuance of $75,000 of bonds for the erection of court-house previously referred to. Address County Judge.

Oberlin, O.—Reports state that Patton & Miller, of Chicago, Ill., completed plans for a $100,000 Carnegie Library, to be erected at Oberlin College.

Ogden, Utah.—It is stated that the John Scowcroft & Sons Co. are arranging to erect a 6-story warehouse, 132 x 265 feet.

Omaha, Neb.—The new Rome Hotel, Sixteenth and Jackson Streets, of which Mr. John Latenser is the architect and Mr. Rome Miller the owner, will be built upon a Raymond concrete pile foundation.

Philadelphia, Pa.—H. Grant Cline will erect fifty-two 2-story brick dwellings, each 15 x 52 feet, on the south side of Chancellor and south side of Locust Streets. Cost, $146,500.

E. Allen Wilson, architect, has been commissioned by Wynne, Prince & Co., Inc., to prepare plans for 4-story brick and stone apartment house to be erected at Fifty-second Street and Columbia Avenue. Cost will be about $150,000.

Bolton & Dull, architects, Witherspoon Building, are preparing plans for a 5-story, 40x100-foot brick and stone apartment house to be erected at Fifty-second and Spruce Streets for Houston Milligan.

The Young Men's Christian Association Building Committee is reported to have selected the plans designed by Horace Trumbauer, of the Land Title Building, for the $500,000 Y. M. C. A. building which will be erected here. The structure is to be 6-story, 170x98 feet, erected at 1417 Arch Street.

Architect E. V. Seeler, 1510 Real Estate Trust Building, it is reported, has plans ready for bids for a 6-story office and publishing building at Juniper and Filbert Streets, for the *Evening Bulletin*. Cost, $300,000.

Phoenixville, Pa.—Bolton & Dull, architects, Witherspoon Building, Philadelphia, have plans under way for alterations and additions and a new front to St. John's Reformed Church, this city.

Pittsburg, Pa.—Ten architects have been selected by the special committee of the Central Board of Education appointed to consider plans for the new East End High School to submit designs for a building that will cost about $1,200,000.

Architect W. A. Thomas, Park Building, is taking bids on a four-story brick store and apartment building at Center Avenue and Devilliers Street for I. Surloff, 108 Washington Avenue; also for a 15-room brick house for Mrs. A. Goeddell in North Negley Avenue. Cost, $35,000.

James W. Freund, 4836 Ellsworth Avenue, will build three stone residences at Shady and Wilkins Avenues, Squirrel Hill. Cost, $160,000. No architect selected.

Articles of incorporation have been filed for the Wild Pigeon Mineral Springs Company. The capital stock is $80,000, and S. F. Lee will hold the position of manager. It is the intention of the company to build a hotel at the springs.

Providence, R. I.—The trustees of St. Mary's Academy for Girls, Providence, have commissioned Martin & Hall, of the Union Trust Building, Providence, to draw plans for a building 180x130, the same to be used for dormitories, class-rooms, etc. Plans will be ready within a short time for contractors. Approximate cost, $50,000.

Quincy, Mass.—The city has commissioned Hurd & Gore of 110 Tremont Street, Boston, to draw plans for a 12-room schoolhouse to be located on Newbury Avenue and Botolph Street, Atlantic district. The building will be of brick, two stories, and contain all modern improvements. Approximate cost, $60,000.

Raleigh, N. C.—Bids are asked by the Board of Commissioners for enlargement of county jail according to plans and specifications made by Barrett & Thompson; for iron cells, doors and bathtubs, etc., for county jail; for enlargement of vault; for building chapel for County Home; for making addition of four rooms to Court House Building, according to plans and specifications made by H. P. S. Keller; for furnishing Court House and jail with all necessary fixtures and appliances for heating same by hot air and by steam or hot water, etc. J. J. Bernard, Register of Deeds.

Regina, Sask.—A lodge-room and opera-house will be erected by the Benevolent and Protective Order Elks. It will be a 3-story brick and stone building of fireproof construction. Estimated cost of building, $50,000, and of equipment, $20,000.

Reno, Nev.—Fowler & Lyons, architects, have completed plans for the I. O. O. F. Temple, to be erected at Second and Center

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Streets. It is to be a 4-story brick, stone and steel building. Estimated cost, $125,000.

RICHMOND, VA.—It is reported the city will erect an auditorium to have a seating capacity of 12,000 and cost $200,000. Robert Le Masurier is chairman of subcommittee.

ROCHESTER, N. H.—The plans submitted by George G. Adams, of Lawrence, Mass., for a new City Hall, to be built of stone and brick, cost not to exceed $65,000, have been accepted.

SACRAMENTO, CAL.—McDougall Bros., architects, 30 Pine Street, San Francisco, Cal., are drawing plans for a brick building to be erected by Daniel Cobb.

An apartment house is to be erected on Tenth and I Streets, at a cost of $50,000. San Francisco capital, it is reported, will be interested in the new building.

SAN ANTONIO, TEX.—T. L. Gallaway, St. Louis, Mo., is interested in the erection of a 2-story building, 130 x 250 feet, on Alamo Plaza, at a cost of $50,000.

Reports state that Harvey L. Page, Moore Building, is preparing plans for the proposed addition to the Hot Wells Hotel, to cost $250,000.

SAN DIEGO, CAL.—Bids are asked by the High School Board of Education, City Hall, until 7:30 P.M., August 20, for the construction of a high school building. S. W. Belding, secretary; F. S. Allen, architect, 301 Slavin Building, Pasadena.

SAN FRANCISCO, CAL.—E. R. Lionthal is to erect a 5-story brick building at Mission and Beale Streets, at a cost of $75,000. Clinton Day, 136 Cleary Street, is architect.

A 4-story brick building is to be erected at Dupont and Commercial Streets, at a cost of about $80,000. H. H. Hedger is architect.

W. H. Demming will erect a 7-story brick and stone building at Post and Stockton Streets.

Hale Bros. are going to erect a new building on the site of their old one, at a cost of $250,000. It is on Market Street.

William Helbing will erect a 4-story reinforced-concrete building, at a cost of $150,000, on the site of the old Manhattan Hotel.

The Native Sons of the Golden West are going to build a large hall. It is to be a fireproof and earthquake-proof building.

A large theater, skating rink and restaurant building will be erected on the block bounded by Fillmore, Webster, Eddy and Turk Streets. The building will cost $200,000.

According to reports, a 7-story brick building will be erected on Sutter Street by Abe Harshall, at a cost of $100,000.

Jean McGregor Boyd, it is stated, will erect an 8-story reinforced-concrete building at California and Drumm Streets. Its estimated cost is $135,000.

ST. BONIFACE, MAN.—August 30 the town will vote on $100,000 for schools.

ST. PAUL, MINN.—Architects have been asked to submit plans to the directors of the St. Paul Masonic Temple Association, William Hamm, chairman, for the erection of a Masonic Temple here, to cost $100,000.

Bids are asked by Jas. Knox Taylor, supervising architect, Washington, D. C., until 3 P.M., September 17, for painting and decorating the United States Post-Office, Court-House and Custom-House buildings at St. Paul, Minn.

Bids are asked until August 25 by Bell & Detweiler, 712 Northwestern Building, Minneapolis, for erecting the new 4-story pressed brick and cut stone fireproof dormitory for the Macalester College here. Estimated cost, $60,000.

The Board of Education, O. E. Holman, president, proposes to erect a 3-story pressed brick and cut stone fireproof school building early next year. Estimated cost, $50,000.

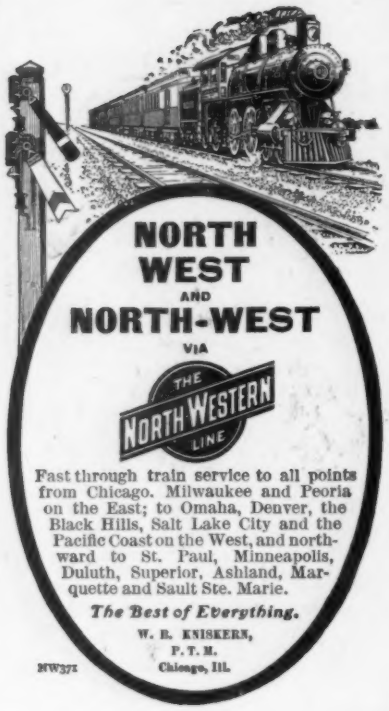
It has been announced that this city will be made the center of a new Episcopal diocese and that a cathedral is to be erected, to cost about $1,000,000. Rev. John Wright, pastor of St. Paul's Episcopal Church, Ninth and Olive Streets, is chairman of the committee in charge.

Plans have been filed for a 2-story brick and stone dwelling to be erected on Portland Avenue, between Oxford and Lexington Streets. E. F. Berrisford, owner; Julius Judgens, contractor. Cost, $25,000.

ST. LOUIS, MO.—The Southern Commercial Savings Bank is to build a new bank building at Broadway and Nagel Avenues. Estimated cost, $50,000.

It is said plans are soon to be prepared for a modern academy building, to cost from $200,000 to $300,000, to be built for the sisters of St. Joseph, at Carondelet.

The Tower Greys Turnverein will build a $100,000 hall at Grand Avenue and Juniata Street.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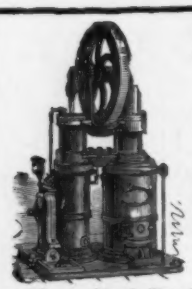

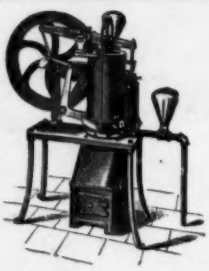

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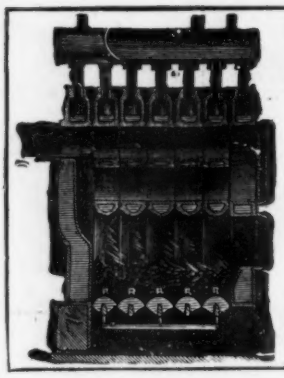

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The contract for the erection of the Railroad Y. M. C. A. Building has been let. The building will cost approximately $215,000.

San Jose, Cal.—Bids are asked until 2 P.M., September 2, for the reconstruction of the Court-House by the Board of Supervisors. Henry A. Pfister, Clerk.

Savannah, Ga.—Percy Sugden, architect, Merchants' National Bank Building, is receiving bids for erecting an Episcopal church and parish house for St. Paul's Church, at a cost of about $50,000.

Seattle, Wash.—Alexander Pearson will erect the Temple de Hirsch, at East Union Street and Fifteenth Avenue. Cost, $41,000. J. F. Everett, architect.

Saunders & Lawton, architects, have plans for a 6-story warehouse for the Crane Company, at Second Avenue South and King Street. Cost, $175,000. It will be of reinforced-concrete construction.

George Dietrich has the contract for the additional stories to the American Bank Building. Cost, complete, $135,000. A. W. Gould, architect.

Sewells Point, Va.—A theater will be built here by the De Long Amusement Company, of Norfolk, Va., at cost of $60,000. L. S. De Long will be in charge.

Shreveport, La.—A. J. Armstrong is preparing plans for improvements to be made to the Elks' Club Building. Cost, $30,000.

A City Hall will be erected, at a cost of $100,000. Address the Mayor for information.

Sioux Falls, S. D.—The Baptist Society is reported to have in contemplation the erection of an edifice to cost $40,000.

South Bend, Ind.—Work will shortly begin on the building of the Young Men's Christian Association. It is the gift of the Studebaker Bros., and will cost $250,000.

Freyersmuth & Maurer, architects, 138 North Michigan Street, have prepared plans and specifications for a new church and parsonage building to be erected at the foot of Birdsell Street for the Hungarian Evangelical Reformed Church.

Spokane, Wash.—The Y. M. C. A. will raise funds for the erection of a building to cost $140,000.

Springfield, Mo.—Board of regents of the Fourth District Normal School are considering the erection and equipment of normal school of sufficient capacity to accommodate 1,200 to 1,500 students. Architect has not been selected nor general plans agreed upon; cost to be provided for by Legislature after January, 1907; cost of completed buildings, $350,000 to $400,000. Geo. A. McCann, secretary.

The plans for the new Masonic Temple on East Walnut and Pearl Streets have been definitely determined upon. The building will be three stories, 80x106 feet, and will cost about $35,000.

Sulphur Springs, Colo.—A syndicate recently organized proposes to spend $300,000 on the building of a new hotel and general improvement of the property.

Syracuse, N. Y.—James A. Randall, of the firm of Merrick & Randall, 705 S. A. & K. building, has drawn plans for a $100,000 edifice to be built on West Genesee Street and Lakeview Avenue by Rev. Francis Rusin.

Springfield, Mass.—Architects Trowbridge & Livingston, 424 Fifth Avenue, New York City, will have plans ready in about two weeks for the new office building for the Mutual Life Insurance Company, to be erected in Springfield.

Toledo, O.—M. E. Harpster, Akron, O., we are advised, has practically finished plans for the new Epworth M. E. Church in this city. J. G. Keyt, Spitzer Building, chairman Building Committee. Contracts for erecting same have not been awarded. M

Trenton, N. J.—Bids are asked until August 23 by the Board of Education for a high and manual training school. It is to be a two-story brick and stone building, 152x130 feet. Estimated cost, $100,000.

Tuxedo, N. Y.—Plans will be ready for estimates about September 15 for the new country mansion, 33x200 feet, which E. H. Harriman, banker, 120 Broadway, is to erect at Mount Orama, near Tuxedo, New York, at an estimated cost of $300,000. The structure is to be erected on Tower Hill, a sightly elevation of 1,350 feet of brick, stone and steel, partially fireproof. The proposed work also includes extensive stables, barns, lodge, formal gardens, power house, etc. Messrs. Carrere & Hastings, architects, 28 East Forty-first Street, Manhattan, will receive all bids.

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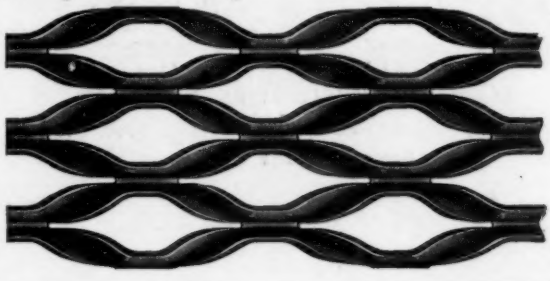

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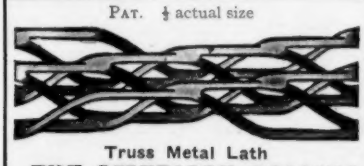

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VANCOUVER, B. C.—An apartment house, to cost $125,000, is soon to be erected at Granville and Robinson Streets.

WASHINGTON, D. C.—Bruce, Price & de Sibour, 1135 Broadway, New York, have drawn plans for a $150,000 dwelling for the Potomac Realty Company, Washington, to be erected on Sixteenth Street, between N and O Streets, Northwest, Washington.

J. B. Holmes has commissioned Wm. S. Plager, architect, 3 B Street N. W., to prepare plans and specifications for hotel to be erected at corner Minnesota Avenue and G Street; three stories, 40x65 feet; brick with stone trimmings; electric wiring and fixtures; sanitary plumbing; heating system; cost about $35,000.

The Baltimore & Ohio Railroad Company is going to build two 25-engine roundhouses, also repair shops, north of New York Avenue. Estimated cost, $400,000.

Bids are asked until 2 P. M., September 20, by Thos. Ryan, Acting Secretary, for furnishing and installing fireproof doors and for fireproofing stairways at the Government Hospital for the Insane, Washington, D. C.

Wyeth & Cresson, architects, 1517 H Street, N. W., Washington, are preparing plans for a $150,000 residence for John Hays Hammond at Twenty-fourth and U and Prescott Streets. The building will be of brick and stone and four stories high.

Sub-bids are asked by Lewis E. Brenninger, builder, 1122 Dartmouth Street, N. W., on a colonial residence and stable at Eighteenth and Lowell Streets, that he is erecting for himself. It will be of brick, 2½ stories high and 70x110 feet. N. R. Grimm, 627 F Street, N. W., architect.

Hennen Jennings will erect a residence. It is to be a four-story house, 60x76 feet. George Oakley Totten, Jr., architect, 808 Seventeenth Street, N. W.

Plans and specifications have been completed by Wood, Dunn & Deming, architects, 808 Seventeenth Street N. W., for bank and office building to be erected at southwest corner Seventeenth and H Streets N. W., by the Union Trust Company, Edward J. Stellwagen, president, 1414 F Street, N. W.; eight stories, 53.8x161 feet; marble exterior; fireproof construction; electric wiring and fixtures; sanitary plumbing.

Wyeth & Cresson, 1517 H Street, N. W., are asking for bids on a $70,000 residence for Charles H. Keep, Assistant Secretary of the Treasury, at R Street, near Sheridan Circle, N. W. The house will be of brick and stone, three stories and basement.

WATONGA, O. T.—Contract will be let September 3 for the erection of court house previously mentioned for Blaine County after plans by Cody & Co., Oklahoma City, O. T.; 60x80 feet; fireproof construction; steam heat; electric and gas fixtures; cost $43,000.

WETUMKA, IND. TER.—It is stated that bids will be received until August 27 by the Board of Education (W. W. Pierce, Secretary), for erecting a school. W. R. Parsons, Sons & Co., architects, Fort Smith, Ark.

WHITMAN, MASS.—The Whitman Savings Bank is to build a new building to be occupied exclusively for banking purposes by the savings and national banks. J. William Beal is architect.

A town hall is to be erected here, at a cost of $100,000. It is to be constructed of brick and granite, and is to be 101x154 feet. Aaron H. Gould, 17 Milk Street, Boston, Mass., is the architect.

WILKESBARRE, PA.—The Hazleton third-rail system has plans prepared for a new terminal station at Wilkesbarre. Guy King, architect, Philadelphia, Pa.

WILMERDING, PA.—Architect A. K. Miller, Penn Building, Pittsburg, has completed plans for a four-story vitrified brick building for the Tyrian Lodge, F. and A. M., of Wilmerding. Cost, $40,000. Address Master of lodge.

WILMINGTON, N. C.—Central Carolina Construction Company has contract to erect apartment house for the Carolina Apartment Company after plans by R. L. Shape, of New York, N. Y.; six stories, 70x100 feet; brick; ordinary construction; electric fixtures; cost $125,000.

WORCESTER, MASS.—Architect Stephen C Earle is drawing plans for the new church at the corner of Belmont and Fountain Streets, for the Swedish Baptist Society. It will be 60x80, 2 stories high, of brick with slate roof, steam heat, gas and electric lights, etc.

YONKERS, N. Y.—Kendall, Taylor & Stevens, 93 Federal Street, Boston, Mass., are taking figures on a hospital to be erected at Ashburton and Park Avenues, Yonkers, N. Y., for the Yonkers' Homeopathic Hospital Corporation, to cost $100,000. Brick and steel, 2 and 3-stories, 135x62 feet.

YOUNGSTOWN, O.—Owsley & Boucherle, Wick Bank Building, are stated to have been selected to prepare plans for the erection of a Masonic Temple, to cost about $100,000.

The Masonic Temple Company has decided to erect the proposed new temple. Cost, $150,000.

ZANESVILLE, O.—Plans are being prepared by Architects Harry C. Meyer and J. P. Taylor, of Youngstown, O., for the new Carnegie Library building to be erected here.

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(FOR ALPHABETICAL LIST SEE PAGE 2)

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Emmel, Charles, Boston

ARTIFICIAL MARBLE.
Mycenian Marble Co., New York

ASPHALT.
American Asphaltum & Rubber Co., Chicago
Neuchatel Asphalt Co., New York

ASPHALT ROOFING.
American Asphaltum & Rubber Co., Chicago
Barber Asphalt Paving Co., Philadelphia

BLUE PRINTS.
Moss, Chas E., Boston
Spaulding Print Paper Co., Boston

BLUE PRINT MACHINES (Electric).
Wagenhorst, J. H. & Co., Youngstown, O.

BRONZEWORK (Ornamental).
Gorham Mfg. Co., New York
Jackson, Wm. H., Co., New York.
Richey, Browne & Donald, Maspeth. L. I., New York City
Winslow Bros. Co., The, Chicago, Ill.

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Hartmann Bros. Mfg. Co., Mount Vernon, N. Y.

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Alsen's Cement Works, New York
Atlas Cement Co., New York
Illinois Steel Co., Chicago

COLUMNS (Lock Joint).
Hartmann Bros. Mfg. Co., Mount Vernon, N. Y.

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R. S. Blome Co., Chicago

CONCRETE PILING.
Raymond Concrete Pile Co., Chicago, Ill.

CONSERVATORIES.
Hitchings & Co., New York
Lord & Burnham Co., New York

CONTRACTORS AND BUILDERS.
Frank B. Gilbreth, New York
Morrill & Whiton Construction Co., Boston

CORDAGE.
Samson Cordage Works, Boston

DOORS (Balance).
Pitt Balance Door Co., New York.

DOORS (Fireproof).
Fire Proof Door Co., Minneapolis, Minn.

DOORS (Steel Rolling).
Kinnear Mfg. Co., The, Columbus, O

DRAUGHTSMEN'S SUPPLIES.
Favor, Ruhl & Co., New York
Soltmann, E. G., New York

ELECTRIC SIGNALS.
Elevator Supply & Repair Co., New York

ELEVATORS, ETC.
Otis Elevator Co., New York

ENGINES (Hot Air).
Rider-Ericsson Engine Co., New York.

FAN SYSTEM.
Sturtevant Co., B. F., Boston

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Loomis-Manning Filter Co., Philadelphia, Pa.
Cummings Filter Co., Pittsburgh, Pa.

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Standard Fire-escape & Mfg. Co., Boston

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Associated Expanded Metal Co., New York
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"Unit" Concrete Steel Frame Co., Philadelphia, Pa

FIREPROOF LATHING.
Hayes, Geo., New York

FIREPROOF SHUTTERS.
Kinnear Mfg. Co., The, Columbus, O

FLOOR POLISH.
Butcher Polish Co., Boston

FUEL ECONOMIZERS.
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Stanley Works, New Britain, Conn.
Yale & Towne Mfg. Co., Stamford, Ct

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Gurney Heater Mfg. Co., Boston
Hitchings & Co., New York
H. B. Smith Co., New York

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Hitchings & Co., New York
Smith Co., H. B., New York

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The Okonite Co. (Ltd.), N. Y.

INTERIOR DECORATION.
Huber, H. F. & Co., New York

INTERLOCKING RUBBER TILING.
See Tiles (Interlocking Rubber)

IRONWORK (Ornamental).
Jackson, Wm. H., Co., New York.
W. H. Mullins Co., Salem, O.
Pitt, Wm. R., Iron Works, New York.
Richey, Browne & Donald, Maspeth, L. I., New York City
Winslow Bros. Co., The, Chicago, Ill.

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Troy Laundry Machinery Co., Troy, N. Y.

MAIL CHUTES.
Cutler Mfg. Co., Rochester, N. Y.

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The Robert C. Fisher Co., New York.

MECHANICAL CLEANING.
American Air Cleaning Co., Milwaukee, Wis.

METAL CEILING.
The Berger Mfg. Co., Canton, Ohio.
W. H. Mullins Co., Salem, O.
See also Fireproofing.

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American Rolling Mill Co., Middletown, O.
G. Hayes, New York
Truss Metal Lath Co., New York.

METAL SETTINGS (for Glass).
Flanagan & Biedenweg, Chicago.

MINERAL WOOL.
U. S. Mineral Wool Co., New York.

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Joseph Dixon Crucible Co., Jersey City, N. J.
National Lead Co., New York
New Jersey Zinc Co., New York

PHOTOGRAPHS.
J. W. Taylor, Chicago, Ill.

PLASTER ORNAMENTS.
Samuel H. French & Co., Phila., Pa.

PLUMBING GOODS.
Woolf, L., Mfg. Co., Chicago

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Kewanee Water Supply Co., Kewanee, Ill.

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Bird, F. W. & Son, East Walpole, Mass.
Blome, R. S., Co., Chicago
Keasbey & Mattison Co., Ambler, Pa.
See also Asphalt Roofing

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Samson Cordage Works, Boston.
Silver Lake Co., Boston

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Ohio State University, Columbus, O.
Society of Beaux-Arts Architects The, New York
University of Michigan, Ann Arbor.
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Washington University School of Engineering and Architecture, St Louis, Mo.

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Vaile & Young, Baltimore, Md.

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